

HITONCAST

GRILLES & REGISTERS



Manufactured by
WM. HIGHTON & SONS

DIVISION OF HART & COOLEY MFG. CO.

MAIN OFFICE, NASHUA, N. H.

NEW BRITAIN, CONN.	FACTORIES	HOLLAND, MICH.
	NASHUA, N. H.	

BRANCH OFFICES

NEW YORK, N. Y., 101 Park Avenue
CHICAGO, ILL., 61 West Kinzie Street

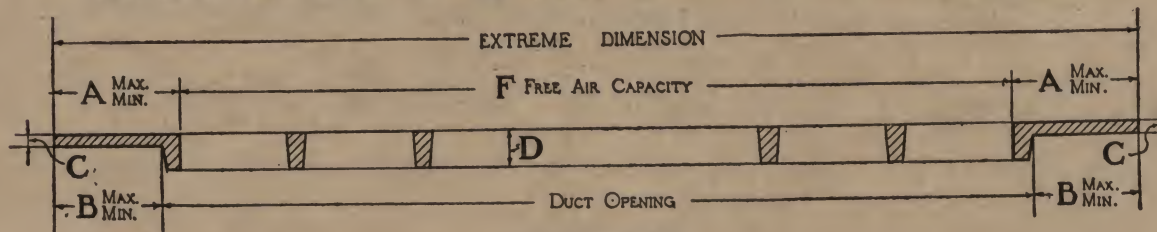
PHILADELPHIA, PA., 1600 Arch Street
BOSTON, MASS., 75 Portland Street

REPRESENTATIVES

ATLANTA, GA., JULIAN F. BAXTER, INC., 397 Peachtree Street, N.E.
 BALTIMORE, MD., EDWIN CUGLE, Old Town National Bank Building
 BIRMINGHAM, ALA., ARNOLD SUPPLY Co., 2923 Avenue E, South
 CHAMBERSBURG, PA., CHAS. E. AUGHINBAUGH, 174 No. Main Street
 CHARLOTTE, N. C., LYDON, COUSART & WEEKS, 304 Builders Building
 CINCINNATI, OHIO, WEST WIND CINCINNATI Co., 626 Broadway
 CLEVELAND, OHIO, VANCE A. HIVES, 750 Prospect Avenue
 COLUMBUS, OHIO, V-W VENTILATOR Co., 2830 A.I.U. Building
 DALLAS, TEX., W. A. SEDWICK CORP., 401 Construction Building
 DENVER, COLO., JOHN T. ROWNTREE, INC., 707 Interstate Trust Building
 DETROIT, MICH., ACME WIRE & IRON WORKS, 12340 Cloverdale Avenue
 FAYETTEVILLE, ARK., WM. S. GREGSON
 FORT WORTH, TEX., COLLINSVILLE MFG. Co., 1003 East Front Street
 GREAT BARRINGTON, MASS., BERKSHIRE EQUIPMENT Co.
 HARRISBURG, PA., MARTIN W. FAGER, 627 Walnut Street
 HOUSTON, TEX., COASTAL SALES AGENCY, INC., 3914 Main Street
 INDIANAPOLIS, IND., THE STANDARD METAL Co., 135 So. Pennsylvania Avenue
 KINGSTON, PA., STANDARD STEEL & BRONZE Co., Kingston Corners Building
 KNOXVILLE, TENN., NELSON IRON WORKS
 MONTREAL, QUE., OGILVIE-ROBINSON, 2087 Bleury Street

LOS ANGELES, CALIF., JOHN T. ROWNTREE, INC., 1213 So. Olive Street
 MIAMI, FLA., BRINSON, SISTRUNK Co., P.O. Box 974
 MINNEAPOLIS, MINN., JOHN F. HURLEY Co., 711 National Building
 MOBILE, ALA., McGOWIN-LYONS HARDWARE & SUPPLY Co., 113-125 No. Water Street
 NEW ORLEANS, LA., ORLEANS STEEL PRODUCTS COMPANY, 1025 Bienville Street
 OKLAHOMA CITY, OKLA., FEDERAL STEAM SPECIALTIES Co., 120 East Main Street
 PITTSBURGH, PA., F. J. CARLSON, % PITTSBURGH H & C Co., 6012 Broad Street
 PORTLAND, ORE., JOHN T. ROWNTREE, INC., 516 Henry Building
 RICHMOND, VA., VANCE & VANCE, 302 Carneal Building
 ROCHESTER, N. Y., SWALBACH BUILDING PRODUCTS Co., 300 Genesee Street
 SALT LAKE CITY, UTAH, JOHN T. ROWNTREE, INC., 313 Dooly Block
 SAN ANTONIO, TEX., GEO. H. SWAN Co., 619 Houston Building
 SAN FRANCISCO, CALIF., JOHN T. ROWNTREE, INC., 33 Spear Street
 SCRANTON, PA., CHARLES E. SUNDAY, INC., 522 Mulberry Street
 SEATTLE, WASH., JOHN T. ROWNTREE, INC., Mutual Life Building
 SYRACUSE, N. Y., W. H. LANDERS Co., 208 East Willow Street
 TAMPA, FLA., CARRINGTON SWEENEY, 718 Grand Central Avenue
 TOLEDO, OHIO, E. R. GILLET, 1214 Madison Avenue
 WASHINGTON, D. C., BAXTER SALES Co., Fourth and Channing Streets, N.W.

Index to Cast Grille Designs and Data on Sizes and Capacities



CAST GRILLES

Design	F	Page No.	A, in.		B, in.		C, in.	D, in.	Design	F	Page No.	A, in.		B, in.		C, in.	D, in.
	Free air cap.		Max.	Min.	Max.	Min.				Max.		Min.	Free air cap.	Max.	Min.		
1/8 in. p.l.	45%	11	1 1/4	1 1/2	1	1 1/4	5/8	3/8	195	74%	5	1 3/8	1 1/2	1 1/8	1 1/4	5/8	3/8 to 5/8
11 in. p.l.	57%	11	1 1/2	1 3/4	1 1/4	1 1/2	5/8	3/8 to 5/8	201	63%	7	1 1/2	1 1/2	1 1/4	1 1/4	5/8	3/8
3/8 in. p.l.	60%	11	1 3/4	1 3/4	1 1/2	1 3/4	5/8	3/8	250	55%	6	1 1/2	1 1/2	1 3/4	1 1/4	5/8	1/16
22	50%	6	1 1/2	1 1/2	1 1/4	1 1/2	5/8	3/8	263	48%	5	1 1/2	1 1/2	1 1/4	1 1/4	5/8	1/16
25	58%	7	1 1/2	1 1/2	1	1 1/2	5/8	3/8	303	66%	6	1 1/2	1 1/2	1	1 1/4	5/8	1/16
29	58%	6	1 1/2	1 1/2	1 1/4	1 1/2	5/8	3/8	321	60%	5	1 1/2	1 1/2	1	1 1/4	5/8	1/16
35	54%	5	1 1/2	1 1/2	1	1 1/2	5/8	3/8	333	47%	4	1 1/2	1 1/2	7/8	1 1/4	5/8	1/16
36	54%	5	1 1/2	1 1/2	1	1 1/2	5/8	3/8	391	30%	4	1 1/2	1 1/2	1 1/4	1 1/4	5/8	1/16
37	81%	5	1 1/2	1 1/2	1	1 1/2	5/8	3/8	399	47%	6	1 1/2	1 1/2	1 1/4	1 1/4	5/8	1/16
39	74%	5	1 1/2	1 1/2	1	1 1/2	5/8	3/8	403	54%	4	1 1/2	1 1/2	3/4	1 1/4	5/8	1/16
45	52%	8	1 1/2	1 1/2	1	1 1/2	5/8	3/8	407	65%	7	1 1/2	1 1/2	1	1 1/4	5/8	1/16
50	57%	8	1 1/2	1 1/2	3/8	1 1/2	5/8	3/8	442	74%	4	1 1/2	1 1/2	1	1 1/4	5/8	1/16
59	60%	7	1 1/2	1 1/2	1 1/4	1 1/2	5/8	3/8	450	62%	6	1 1/2	1 1/2	1 1/4	1 1/4	5/8	1/16
62	75%	7	1 1/2	1 1/2	1	1 1/2	5/8	3/8	460	72%	5	1 1/2	1 1/2	1 1/4	1 1/4	5/8	1/16
70	47%	4	1 1/2	1 1/2	1 1/2	1 1/2	5/8 to 1/16	3/8	485	60%	5	1 1/2	1 1/2	1 3/4	1 1/4	5/8	1/16
74	63%	4	1 1/2	1 1/2	1	1 1/2	5/8	3/8	485B	50%	5	1 1/2	1 1/2	1	1 1/4	5/8	1/16
75	76%	7	1 1/2	1 1/2	1	1 1/2	5/8	3/8	500	50%	4	1 1/2	1 1/2	3/4	1 1/4	5/8	1/16
78	54%	4	1 1/2	1 1/2	1 1/4	1 1/2	5/8	3/8	528	48%	8	1 1/2	1 1/2	7/8	1 1/4	5/8	1/16
80	61%	5	1 1/2	1 1/2	1 1/4	1 1/2	5/8	3/8	607	66%	8	1 1/2	1 1/2	1 1/4	1 1/4	5/8	1/16
91	61%	8	1 1/2	1 1/2	1 1/4	1 1/2	5/8	3/8	619	50%	8	1 1/2	1 1/2	3/4	1 1/4	5/8	1/16
93	53%	7	1 1/2	1 1/2	1	1 1/2	5/8	3/8	732	64%	5	1 1/2	1 1/2	3/4	1 1/4	5/8	1/16
98	45%	7	1 1/2	1 1/2	1	1 1/2	5/8	3/8	749	59%	6	1 1/2	1 1/2	1	1 1/4	5/8	1/16
110	60%	6	1 1/2	1 1/2	1	1 1/2	5/8	3/8	752	42%	7	1 1/2	1 1/2	1 1/4	1 1/4	5/8	1/16
130	60%	7	1 1/2	1 1/2	1	1 1/2	5/8	3/8	760	58%	7	1 1/2	1 1/2	1	1 1/4	5/8	1/16
134	40%	4	1 1/2	1 1/2	1	1 1/2	5/8	3/8	810	60%	3	1 1/2	1 1/2	3/4	1 1/4	5/8	1/16
140	57%	6	1 1/2	1 1/2	1	1 1/2	5/8	3/8	815	58%	3	1 1/2	1 1/2	3/4	1 1/4	5/8	1/16
145	62%	7	1 1/2	1 1/2	1	1 1/2	5/8	3/8	820	50%	3	1 1/2	1 1/2	1	1 1/4	5/8	1/16
146	54%	4	1	1 1/2	3/4	1 1/2	5/8	3/8	900	40%	3	1 1/2	1 1/2	3/4	1 1/4	5/8	1/16
148	70%	8	1 3/8	1 1/2	1 1/8	1 1/2	5/8	3/8	901	36%	3	1 1/2	1 1/2	3/4	1 1/4	5/8	1/16
149	61%	4	1 1/4	1 1/2	1	1 1/2	5/8	3/8	902	40%	8	1 1/2	1 1/2	3/4	1 1/4	5/8	1/16
150	77%	8	1	1 1/2	3/4	1 1/2	5/8	3/8	982	44%	6	1 1/2	1 1/2	1 1/4	1 1/4	5/8	1/16
152	50%	6	1	1 1/2	3/4	1 1/2	5/8	3/8									
152A	50%	8	1 1/4	1 1/2	1	1 1/2	5/8	3/8									
160	63%	6	1 1/4	1 1/2	1	1 1/2	5/8	3/8									

HITONCAST

The Story of Highton Quality and Service

In this catalogue will be found the most complete line of Ornamental Grilles and Registers in Cast as well as Wrought metals ever obtainable from any one source. We, ourselves, manufacture every item listed in our catalogue. Due to increased facilities we can furnish Grilles in Cast Iron, Brass or Bronze, Aluminum, Monel Metal, or Benedict Nickel. Wrought Grilles can be furnished in Steel, Brass or Bronze, Aluminum, and Monel Metal.

Our chief aim is to completely satisfy the architect and his client. Careful attention is therefore given every order that is entered in our factories to insure our customer of first-class work in every respect as to design, manufacture, and finish. Special care is taken in the selection of designs to combine beauty with the

in the United States which has not lost through its increased size the individual atmosphere, characteristic of a small plant. Our endeavor for the past seventy-three years to manufacture a high-grade quality line of grilles and registers is, therefore, doubly insured and the new combine is now known to all the trade as WM. HIGHTON & SONS—DIVISION of HART & COOLEY MFG. CO.

When Specifying "Hitoncast" We Suggest

First—State "all grilles and registers to be Highton-H & C."

Second—State if grille or register—a register will have a bottom with movable louvers.

Third—State material—cast iron, brass, bronze, aluminum, or Monel Metal.

Fourth—State design—using our numbers for Hitoncast designs, or furnishing detail if your own design is preferred. A specification for Hitoncast means hand chased for perfection of lines and clearness of design.

Fifth—State size—bearing in mind that dimensions given will be considered "opening sizes" unless otherwise stated, allowing approximate 1-in. margins all around, and if exact extreme sizes are necessary they must be so specified.

Sixth—State use—whether floor, wall, or ceiling. Extra heavy castings are provided for floor use.



Grilles to Special Details in Temple Emanu-El, New York, N. Y.

allowing of maximum free-air capacity and we are continually working on new designs to satisfy the demands of the industry.

WM. HIGHTON & SONS have recently combined their efforts with those of the HART & COOLEY MFG. CO. so that today we have under the new régime the largest and most efficient perforating plant

Seventh—State finish—in absence of specification, we estimate and apply priming coat. Any type of electroplated or lacquer finish can be furnished but the exact finish required must be specified.

Eighth—State construction and method for fastening, using our numbers. See pages 18 to 20.

QUALITY IN GRILLES

A Few Helpful Suggestions to Architects Regarding the Factors Determining Quality in Grilles

QUALITY IN CAST GRILLES



A Hitoncast Quality Cast Grille

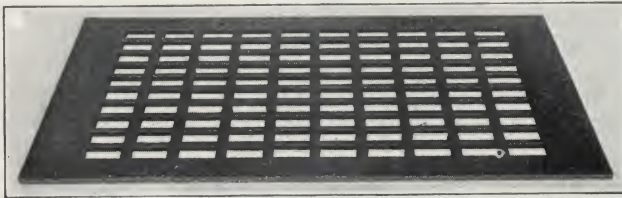
This illustration shows a grille finished to Highton specifications for quality grilles. The front and back surfaces are perfectly smooth and flat, and moulded surfaces are hand-chased. All edges are sharp and clean. Grille is given a priming coat of paint.



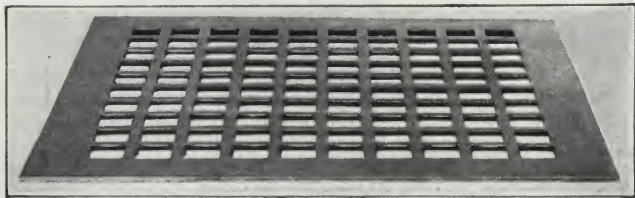
A Poor Quality Cast Grille

A type sometimes installed if supervision is not strict. This grille is just as it comes from the sand mould. It is not ground, hand-chased or finished in any way.

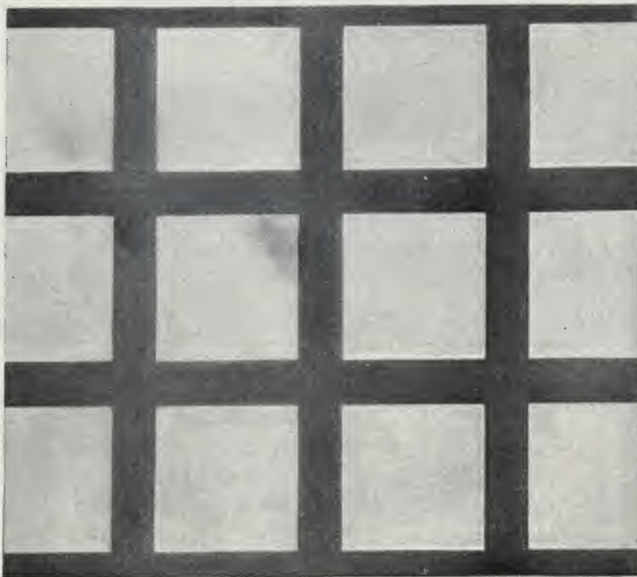
QUALITY IN STAMPED GRILLES



A plain lattice grille of good quality. Note the trueness of the lines of the design; obtained by the use of machines especially designed for this work.

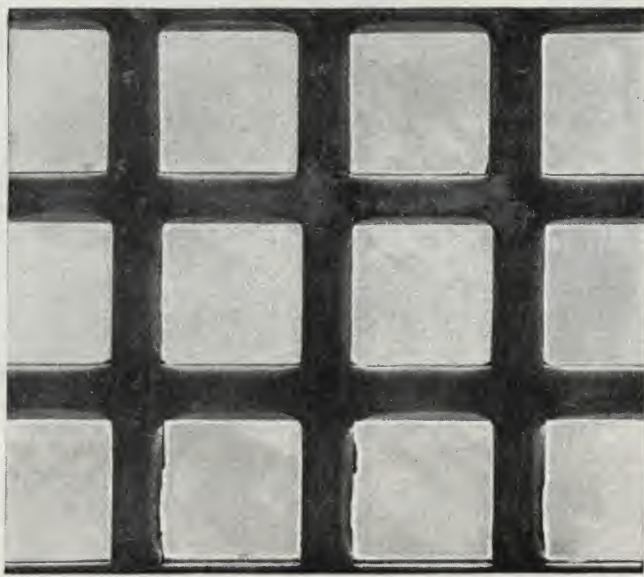


A cheap lattice grille, showing the irregularity of the punching, caused by the use of stamping machines not designed for grille work.



A High Grade Stamped Grille

Note the accuracy and clean-cut edges of the stamping. No burrs to catch lint and dust.



A Poor Quality Stamped Grille

Note the rounded top surface, burrs formed on edges and back, and irregularity of punching.

All the above illustrations are actual photographs of grilles

HITONCAST SPECIAL DESIGN CAST GRILLES



On this page are shown some of the special design Hitoncast Grilles which were created to architects' details, and are examples of the special order work we are prepared to execute.



Hitoncast No. 900

Through special equipment and master workmen we are permitted to allow perfect architectural freedom of design, while assuring both the architect and his client a first class product as to material, manufacture and finish.



Hitoncast No. 820



Hitoncast No. 902



Hitoncast No. 810

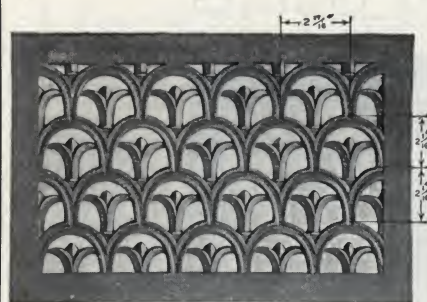


Hitoncast No. 815

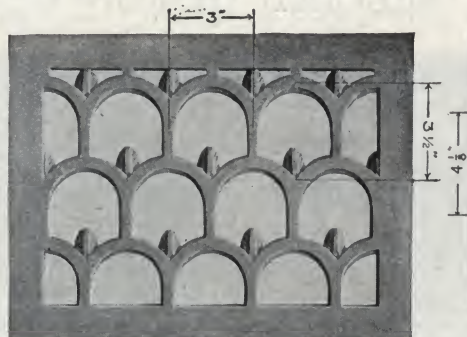
Designs Nos. 810, 815 and 820, shown on this page, are several of the number of modernistic design

Cast Grilles, which show the advanced work we have done along this line.

HITONCAST GRILLES



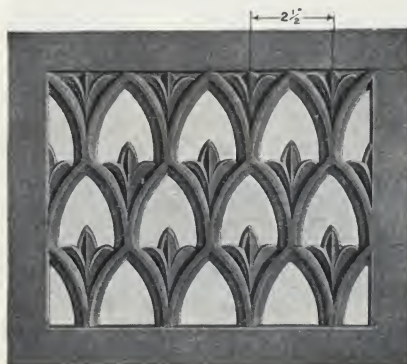
Hitoncast No. 333
Free area, 47%



Hitoncast No. 442
Free area, 74%



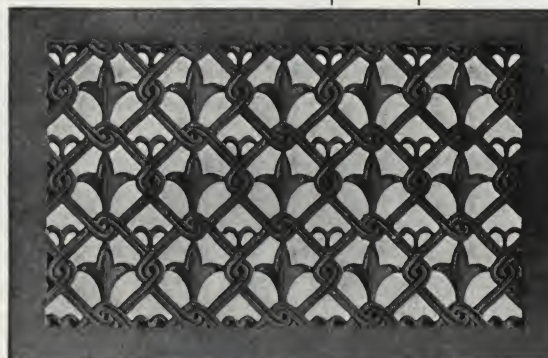
Hitoncast No. 70
Free area, 47%. Units: 4 1/2 in. wide,
4 1/8 in. high



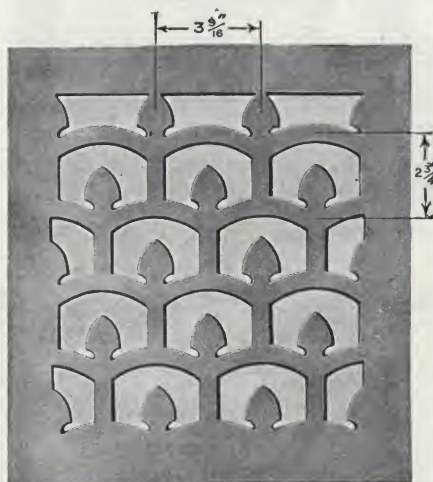
Hitoncast No. 146
Free area, 54%

Hitoncast Designs No. 70 and No. 500 shown on this page are two of Highton-H & C most popular designs. Their popularity, however, is deserved, combining as they do beauty of design with a large free air capacity. Highton-H & C has prepared full-size blueprint details on these two designs as well as about 40 of our other more popular designs, and it is suggested that architects use these blueprint folders in laying out grille openings on plans.

A complete set of details will be gladly sent without charge upon receipt of such request.



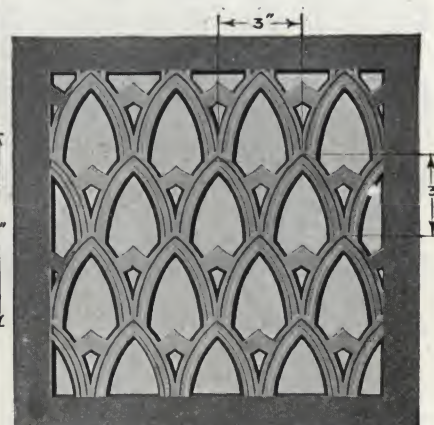
Hitoncast No. 500
Free area, 50%



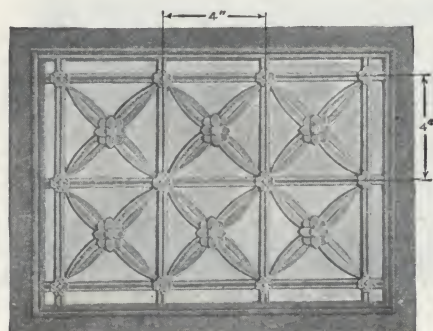
Hitoncast No. 403
Free area, 54%



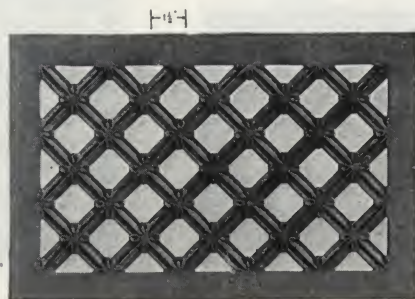
Hitoncast No. 391
Free area, 30%



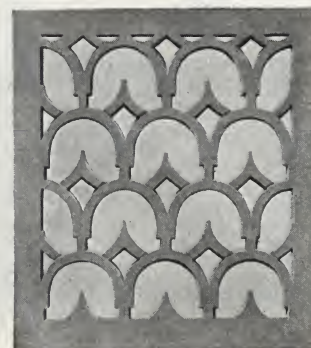
Hitoncast No. 78
Free area, 54%



Hitoncast No. 149
Free area, 61%

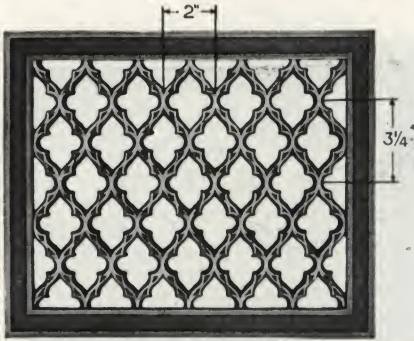


Hitoncast No. 134
Free area, 40%. Units: 2 1/4
in. square



Hitoncast No. 74
Free area, 63%. Units: 3 1/2 in.
wide, 3 in. high

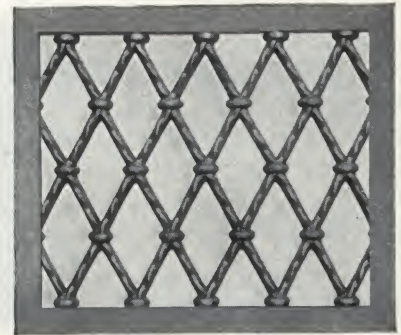
HITONCAST GRILLES

**Hitoncast No. 485B**

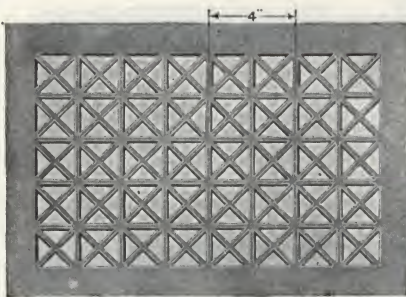
Free area, 50%
Provided with plain flat border unless
otherwise specified

**Hitoncast No. 485**

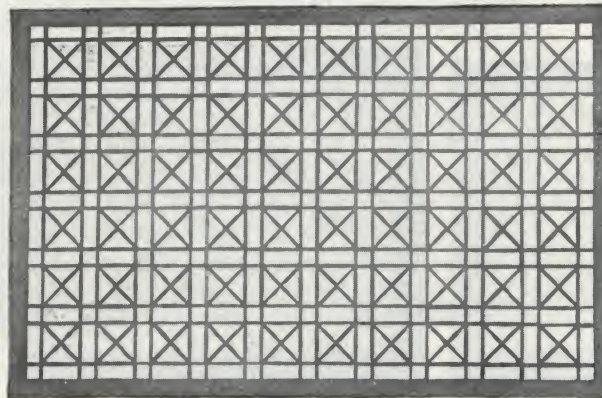
Free area, 60%. Center to center of
units: width 3 in., height 6 in.

**Hitoncast No. 460**

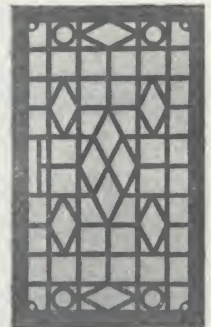
Free area, 72%. Center to center of units:
width $3\frac{1}{4}$ in., height 6 in.

**Hitoncast No. 35**

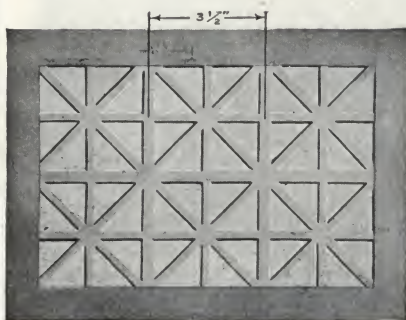
Free area, 54%

**Hitoncast No. 195**

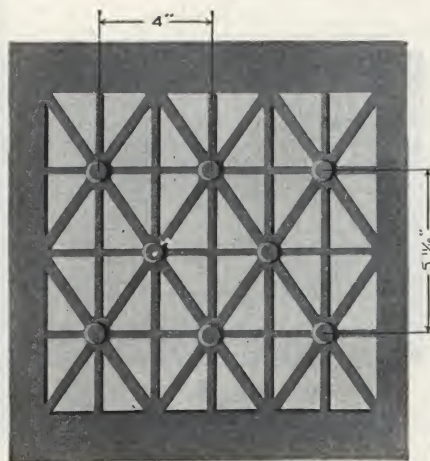
Free area, 74%. Large square 3 in.,
small square 1 in.

**Hitoncast No. 250**

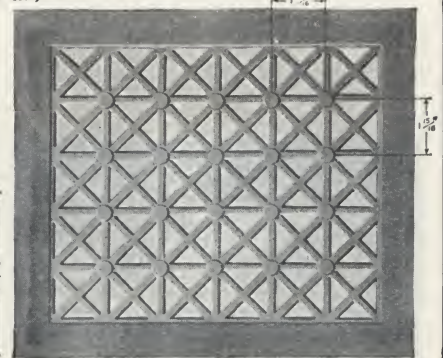
Free area, 55%.
Special pattern re-
quired for each size

**Hitoncast No. 80**

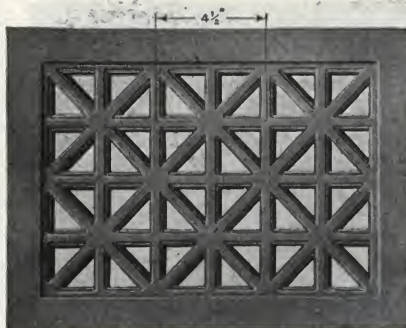
Free area, 61%

**Hitoncast No. 732**

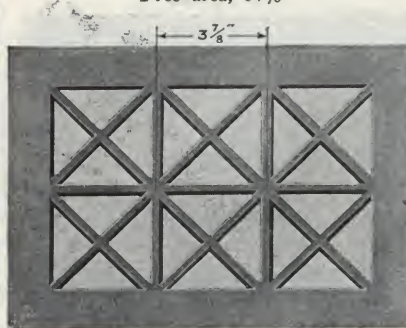
Free area, 64%

**Hitoncast No. 36**

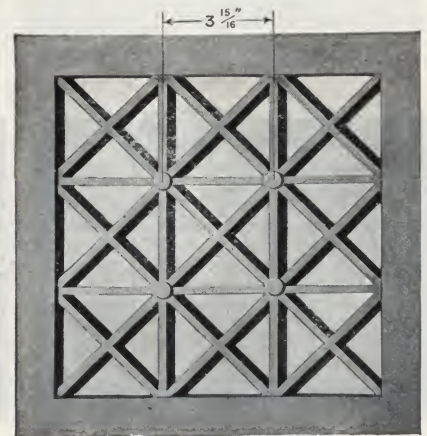
Free area, 54%

**Hitoncast No. 263**

Free area, 48%

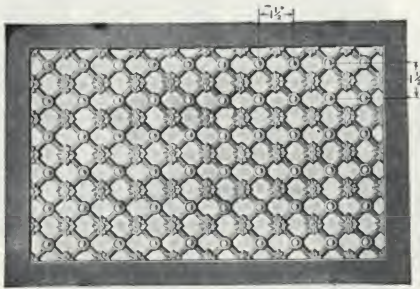
**Hitoncast No. 39**

Free area, 74%

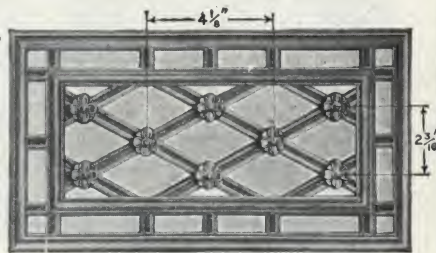
**Hitoncast No. 37**

Free area, 81%

HITONCAST GRILLES



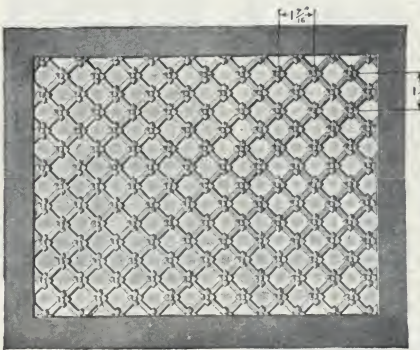
Hitoncast No. 140
Free area, 57%



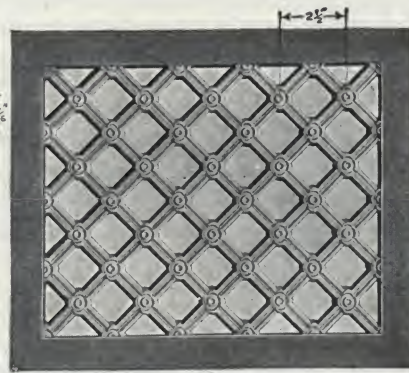
Hitoncast No. 450
Free area, 62%



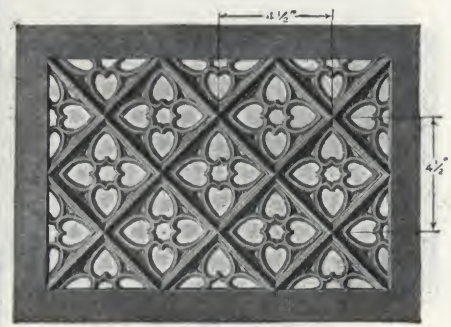
Hitoncast No. 160
Free area, 63%



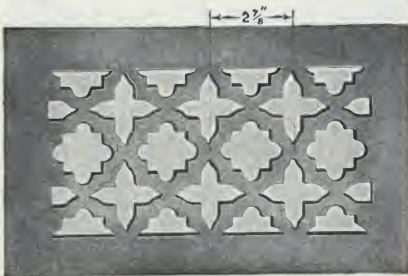
Hitoncast No. 152
Free area, 50%



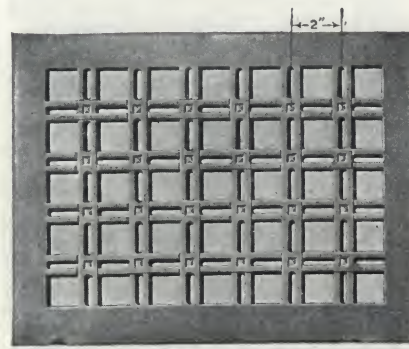
Hitoncast No. 399
Free area, 47%



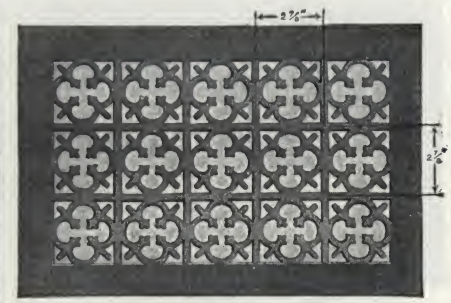
Hitoncast No. 982
Free area, 44%



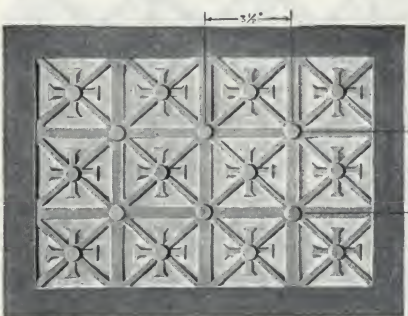
Hitoncast No. 22
Free area, 50%



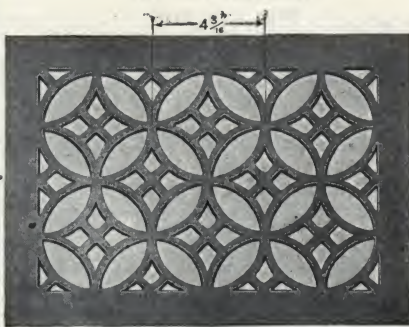
Hitoncast No. 321
Free area, 60%



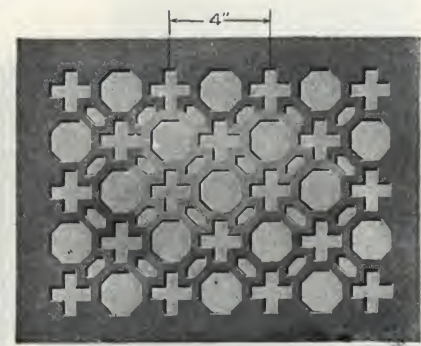
Hitoncast No. 303
Free area, 66%



Hitoncast No. 110
Free area, 60%

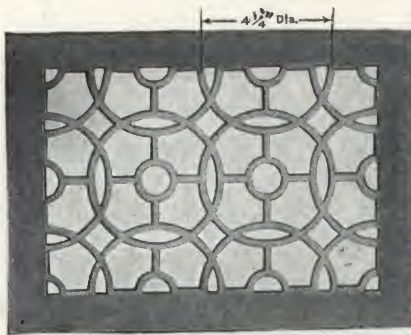


Hitoncast No. 749
Free area, 59%

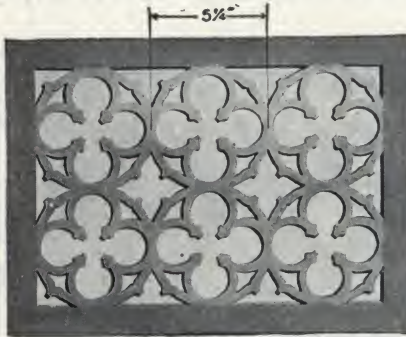


Hitoncast No. 29
Free area, 58%

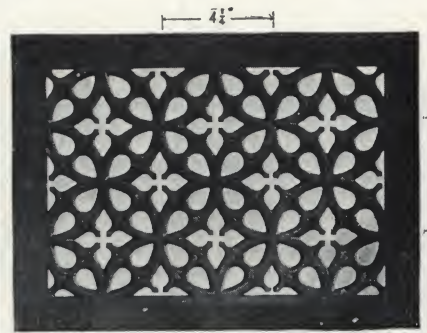
HITONCAST GRILLES



Hitoncast No. 62
Free area, 75%



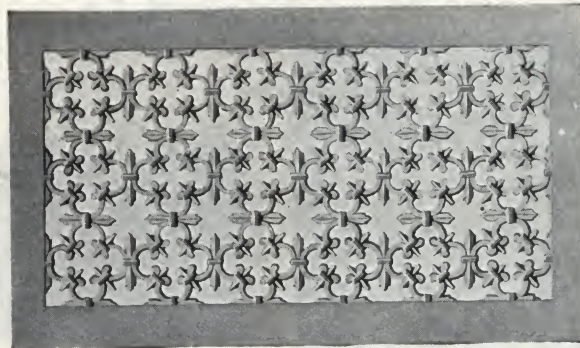
Hitoncast No. 760
Free area, 58%



Hitoncast No. 752
Free area, 42%



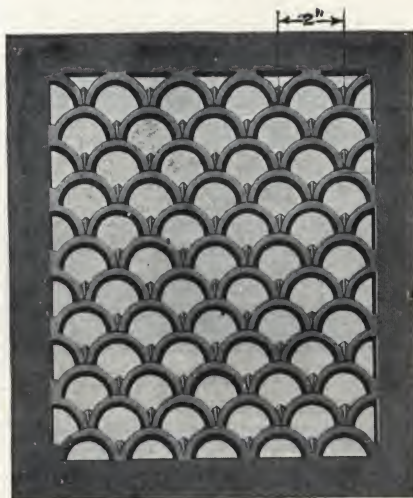
Hitoncast No. 93
Free area, 53%. Units: $2\frac{1}{8}$ in. wide, $3\frac{1}{8}$ in. high



Hitoncast No. 407
Free area, 65%. Units: $2\frac{1}{8}$ or 3 in. center to center



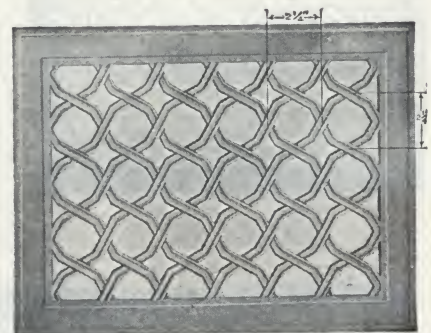
Hitoncast No. 25
Free area, 52%. Units: $2\frac{1}{4} \times 2\frac{1}{4}$ or $2\frac{5}{8} \times 2\frac{5}{8}$ in.



Hitoncast No. 145
Free area, 62%



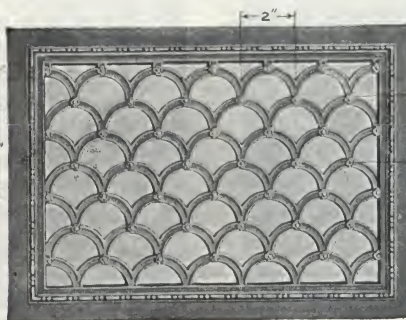
Hitoncast No. 59
Free area, 60%



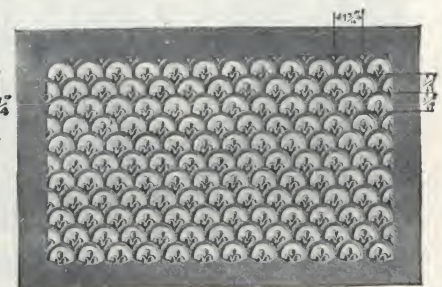
Hitoncast No. 201
Free area, 63%



Hitoncast No. 75
Free area, 76%

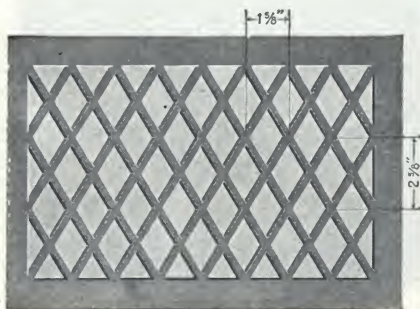


Hitoncast No. 130
Free area, 60%

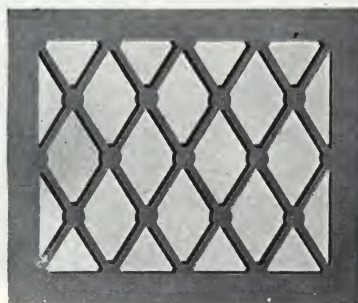


Hitoncast No. 98
Free area, 45%

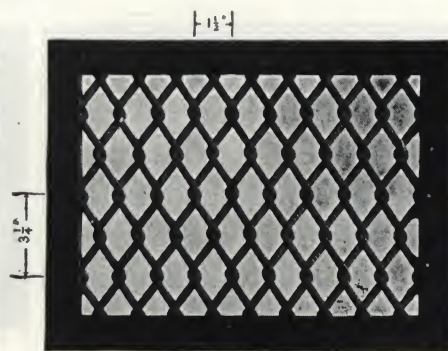
HITONCAST GRILLES

**Hitoncast No. 148**

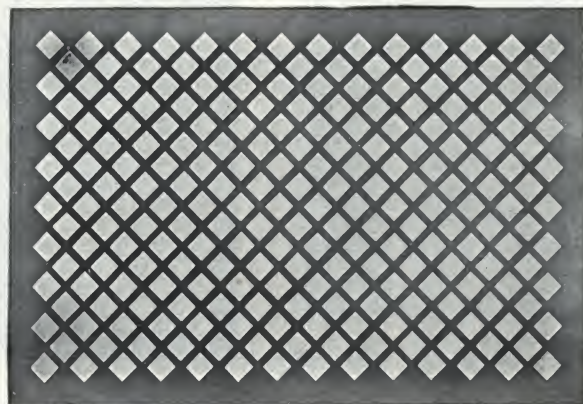
Free area, 70%. Center to center of units: 1 $\frac{5}{8}$ in. wide, 2 $\frac{1}{8}$ in. high

**Hitoncast No. 150**

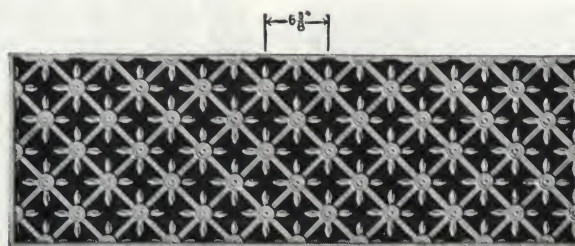
Free area, 77%. Center to center of units: 3 in. wide, 4 $\frac{3}{4}$ in. high

**Hitoncast No. 91**

Free area, 61%

**Hitoncast No. 50**

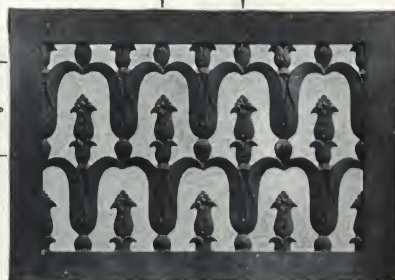
Free area, 56%. $\frac{3}{4}$ -in. diagonal lattice

**Hitoncast No. 903**

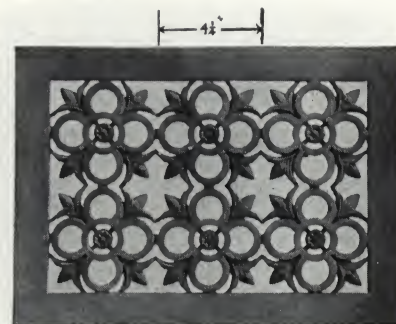
Free area, 50%

**Hitoncast No. 45**

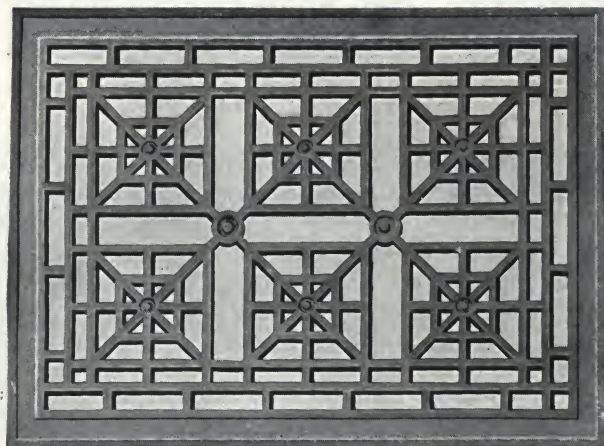
Free area, 52%

**Hitoncast No. 607**

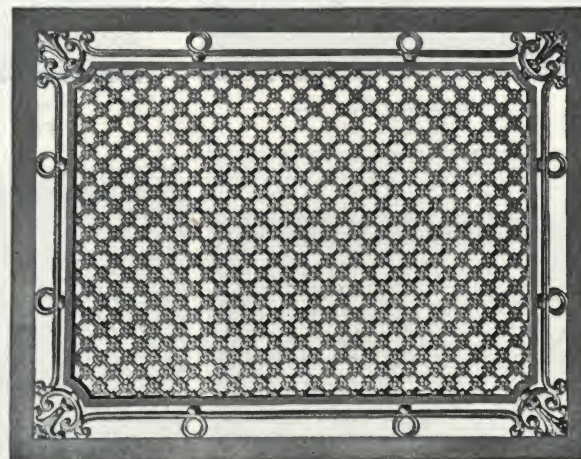
Free area, 60%

**Hitoncast No. 528**

Free area, 45%

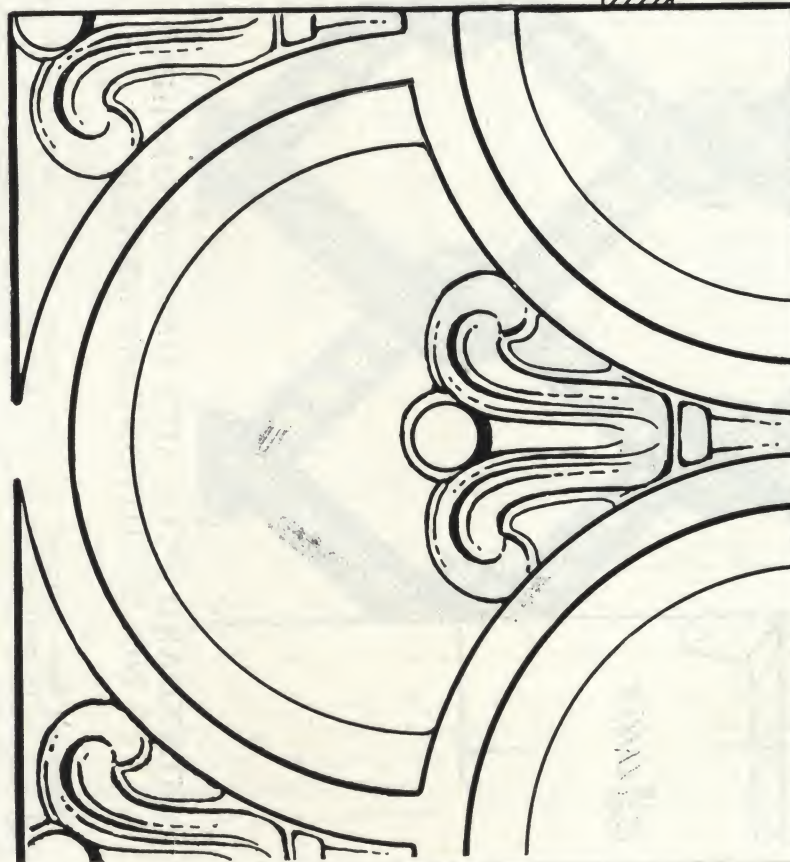
**Hitoncast No. 619**

Free area, 50%. Units: 4 $\frac{3}{4}$ in. square; spaced $\frac{3}{4}$ in.

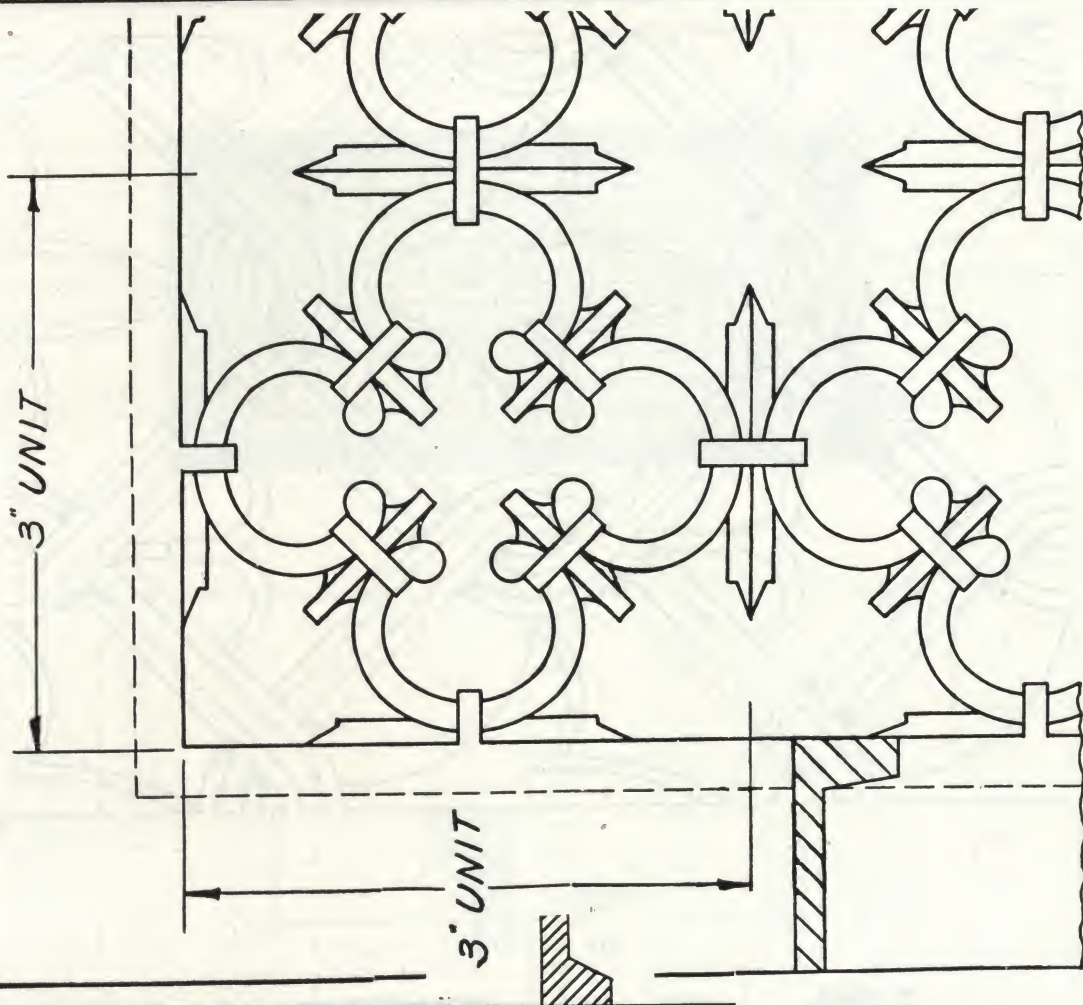
**Hitoncast No. 152A**

Free area, 50%. Center to center of units: 1 $\frac{7}{8}$ x 1 $\frac{7}{8}$ in. Special pattern required for each size

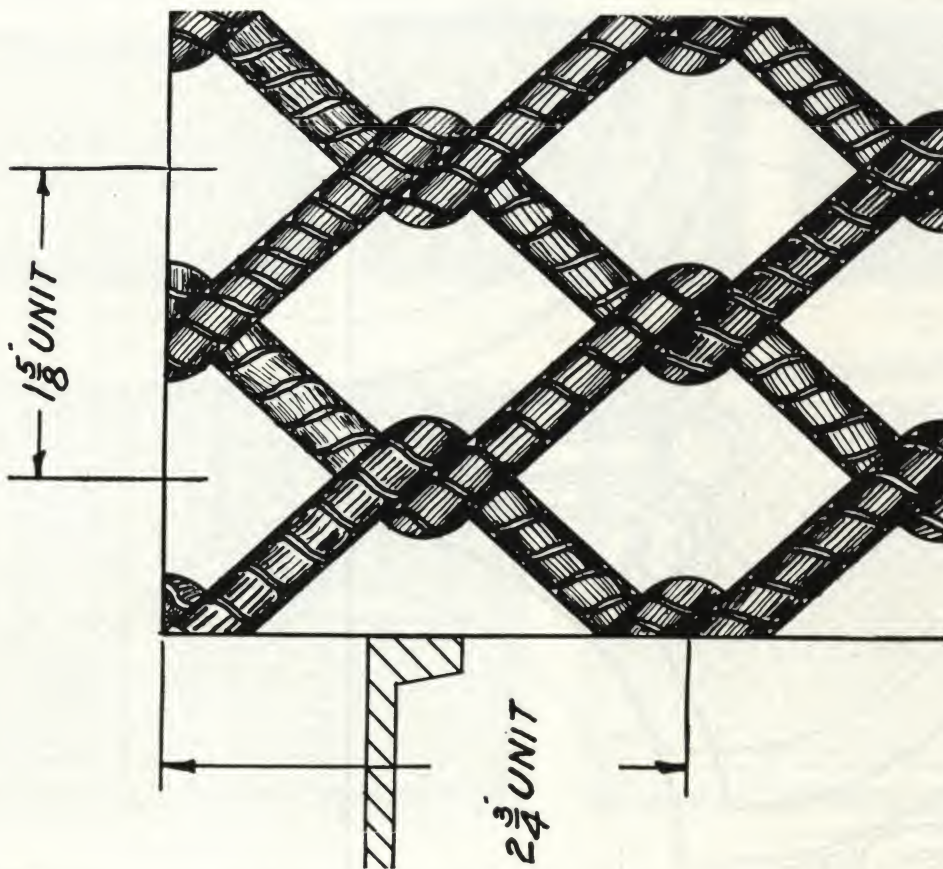
HITONCAST FULL SIZE UNIT DETAILS

STANDARD FULL SIZE UNIT OF DESIGN
NO. 70—HITONCAST GRILLE**Important Note**

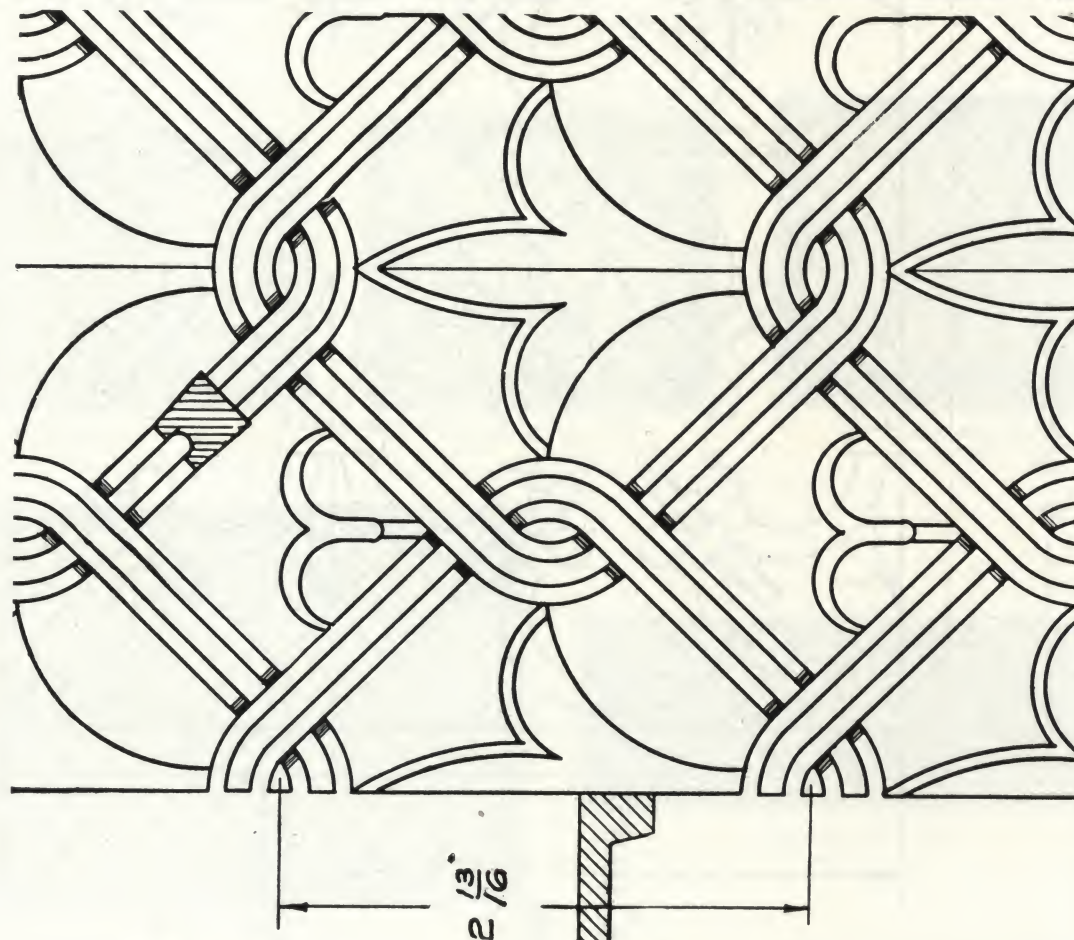
Highton-H & C have prepared full-size blueprint details on over forty of the more popular Hitoncast and perforated grilles, similar to but more comprehensive than those shown on this and the following page. These *blueprint details* are adapted especially for architects' use and the *complete set will gladly be sent without charge* on receipt of such request.

STANDARD FULL SIZE UNIT OF DESIGN NO. 407-A—
HITONCAST GRILLE

HITONCAST FULL SIZE UNIT DETAILS

STANDARD FULL SIZE UNIT OF DESIGN
NO. 91—HITONCAST GRILLE

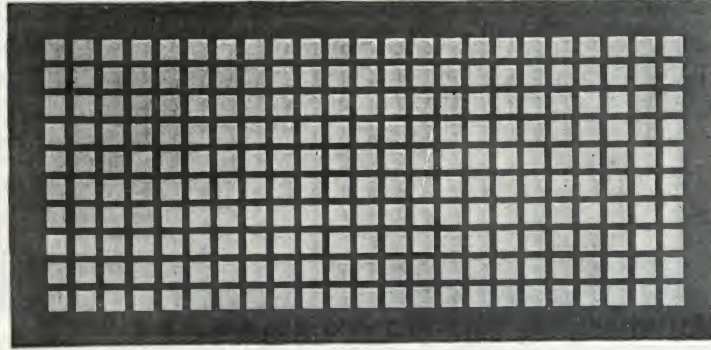
Important Note—Highton-H & C have prepared full-size blueprint details on over forty of the more popular Hitoncast and perforated grilles, similar to but more comprehensive than those shown on this and the preceding page. These blueprint details are adapted especially for architects' use and the complete set will be gladly sent without charge on receipt of such request.

STANDARD FULL SIZE UNIT OF DESIGN NO. 500—
HITONCAST GRILLE

PLAIN LATTICE DESIGN CAST GRILLES

Made in $\frac{1}{2}$, $\frac{3}{4}$, $\frac{7}{8}$, $1\frac{1}{2}$ in. and other meshes to order. Where grilles are required for floor use, we furnish extra heavy casting at slight advance in price.

The table below shows standard size



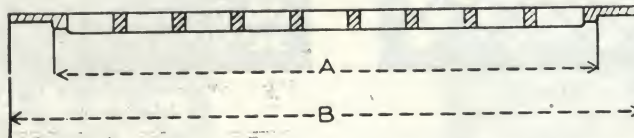
patterns carried in stock. These standard sizes are sold at a lower price than odd sized plain lattice cast iron grilles. Made in $\frac{7}{8}$ -in. mesh only and with rib opening and over-all dimensions exactly as given in table below.

TABLE OF STANDARD SIZES OF PLAIN LATTICE GRILLES WITH $\frac{7}{8}$ -IN MESH

Duct opening, in.	Approx. over all of face, in.	Duct opening, in.	Approx. over all of face, in.	Duct opening, in.	Approx. over all of face, in.	Duct opening, in.	Approx. over all of face, in.	Duct opening, in.	Approx. over all of face, in.	Duct opening, in.	Approx. over all of face, in.
4x 6	5 $\frac{1}{4}$ x 7 $\frac{1}{4}$	6x32	7 $\frac{1}{2}$ x 33 $\frac{5}{8}$	9x30	10 $\frac{7}{8}$ x 31 $\frac{1}{2}$	12x48	14 $\frac{1}{2}$ x 50	18x27	20 $\frac{5}{8}$ x 29 $\frac{5}{8}$	24x42	26 $\frac{3}{4}$ x 44 $\frac{3}{4}$
4 $\frac{1}{2}$ x 6 $\frac{1}{2}$	5 $\frac{5}{8}$ x 7 $\frac{5}{8}$	6x36	7 $\frac{1}{2}$ x 37 $\frac{5}{8}$	9x32	10 $\frac{7}{8}$ x 33 $\frac{1}{2}$	14x14	16 $\frac{1}{4}$ x 18 $\frac{1}{4}$	18x28	20 $\frac{5}{8}$ x 30 $\frac{5}{8}$	24x45	26 $\frac{3}{4}$ x 47 $\frac{3}{4}$
4x 8	5 $\frac{1}{4}$ x 9 $\frac{1}{4}$			9x36	10 $\frac{7}{8}$ x 37 $\frac{1}{2}$	14x15	16 $\frac{1}{4}$ x 17 $\frac{1}{4}$	18x30	20 $\frac{5}{8}$ x 32 $\frac{1}{4}$	24x48	26 $\frac{3}{4}$ x 50 $\frac{3}{4}$
4x10	5 $\frac{1}{4}$ x 11 $\frac{1}{4}$	7x 7	8 $\frac{1}{2}$ x 8 $\frac{1}{2}$			14x16	16 $\frac{1}{4}$ x 18 $\frac{1}{2}$	18x36	20 $\frac{5}{8}$ x 38 $\frac{1}{4}$		
4x12	5 $\frac{1}{4}$ x 13 $\frac{1}{4}$	7x 9	8 $\frac{1}{2}$ x 10 $\frac{1}{2}$	10x10	11 $\frac{1}{8}$ x 11 $\frac{1}{8}$	14x18	16 $\frac{1}{4}$ x 20 $\frac{1}{2}$	18x48	20 $\frac{5}{8}$ x 50 $\frac{1}{4}$	26x26	28 $\frac{3}{4}$ x 28 $\frac{3}{4}$
4x13	5 $\frac{1}{4}$ x 14 $\frac{1}{4}$	7x10	8 $\frac{1}{2}$ x 11 $\frac{1}{2}$	10x12	11 $\frac{1}{8}$ x 13 $\frac{1}{8}$	14x20	16 $\frac{1}{4}$ x 22 $\frac{1}{2}$	20x20	22 $\frac{3}{8}$ x 22 $\frac{3}{8}$	26x28	28 $\frac{3}{4}$ x 30 $\frac{3}{4}$
4x15	5 $\frac{1}{4}$ x 16 $\frac{1}{4}$	7x12	8 $\frac{1}{2}$ x 13 $\frac{1}{2}$	10x14	11 $\frac{1}{8}$ x 15 $\frac{1}{8}$	14x22	16 $\frac{1}{4}$ x 24 $\frac{1}{4}$	20x22	22 $\frac{3}{8}$ x 24 $\frac{3}{8}$	26x30	28 $\frac{3}{4}$ x 32 $\frac{3}{4}$
4x18	5 $\frac{1}{4}$ x 19 $\frac{1}{4}$	7x14	8 $\frac{1}{2}$ x 15 $\frac{1}{2}$	10x15	11 $\frac{1}{8}$ x 16 $\frac{1}{8}$	14x24	16 $\frac{1}{4}$ x 26 $\frac{1}{4}$	20x24	22 $\frac{3}{8}$ x 26 $\frac{3}{8}$	26x32	28 $\frac{3}{4}$ x 34 $\frac{3}{4}$
4x21	5 $\frac{1}{4}$ x 22 $\frac{1}{4}$	7x15	8 $\frac{1}{2}$ x 16 $\frac{1}{2}$	10x16	11 $\frac{1}{8}$ x 17 $\frac{1}{8}$	14x28	16 $\frac{1}{4}$ x 30 $\frac{1}{4}$	20x26	22 $\frac{3}{8}$ x 28 $\frac{3}{8}$	26x34	28 $\frac{3}{4}$ x 36 $\frac{3}{4}$
4x24	5 $\frac{1}{4}$ x 25 $\frac{1}{4}$			10x18	11 $\frac{1}{8}$ x 19 $\frac{1}{8}$	14x30	16 $\frac{1}{4}$ x 32 $\frac{1}{4}$	20x28	22 $\frac{3}{8}$ x 30 $\frac{3}{8}$	26x36	28 $\frac{3}{4}$ x 38 $\frac{3}{4}$
4x28	5 $\frac{1}{4}$ x 29 $\frac{1}{4}$	8x 8	9 $\frac{3}{4}$ x 9 $\frac{3}{4}$	10x20	11 $\frac{1}{8}$ x 21 $\frac{1}{8}$	14x36	16 $\frac{1}{4}$ x 38 $\frac{1}{4}$	20x30	22 $\frac{3}{8}$ x 32 $\frac{3}{8}$	27x27	29 $\frac{3}{8}$ x 29 $\frac{3}{8}$
4x30	5 $\frac{1}{4}$ x 31 $\frac{1}{4}$	8x10	9 $\frac{3}{4}$ x 11 $\frac{1}{4}$	10x22	11 $\frac{1}{8}$ x 23 $\frac{1}{8}$	14x40	16 $\frac{1}{4}$ x 42 $\frac{1}{4}$	20x32	22 $\frac{3}{8}$ x 34 $\frac{3}{8}$	27x38	29 $\frac{3}{8}$ x 40 $\frac{3}{8}$
		8x12	9 $\frac{3}{4}$ x 13 $\frac{1}{4}$	10x24	11 $\frac{1}{8}$ x 25 $\frac{1}{8}$	14x48	16 $\frac{1}{4}$ x 50 $\frac{1}{4}$	20x36	22 $\frac{3}{8}$ x 38 $\frac{3}{8}$		
5x 8	6 $\frac{5}{8}$ x 9 $\frac{5}{8}$	8x13	9 $\frac{3}{4}$ x 14 $\frac{1}{4}$	10x30	11 $\frac{1}{8}$ x 31 $\frac{1}{8}$			20x48	22 $\frac{3}{8}$ x 50 $\frac{3}{8}$	28x28	30 $\frac{3}{8}$ x 30 $\frac{3}{8}$
5x 9	6 $\frac{5}{8}$ x 10 $\frac{5}{8}$	8x14	9 $\frac{3}{4}$ x 15 $\frac{1}{4}$	10x36	11 $\frac{1}{8}$ x 37 $\frac{1}{8}$	15x15	17 $\frac{1}{4}$ x 17 $\frac{1}{4}$			28x30	30 $\frac{3}{8}$ x 32 $\frac{3}{8}$
5x10	6 $\frac{5}{8}$ x 11 $\frac{5}{8}$	8x15	9 $\frac{3}{4}$ x 16 $\frac{1}{4}$	10x40	11 $\frac{1}{8}$ x 41 $\frac{1}{8}$	15x21	17 $\frac{1}{4}$ x 23 $\frac{1}{4}$	21x21	23 $\frac{3}{8}$ x 23 $\frac{3}{8}$	28x32	30 $\frac{3}{8}$ x 34 $\frac{3}{8}$
5x11	6 $\frac{5}{8}$ x 12 $\frac{5}{8}$	8x16	9 $\frac{3}{4}$ x 17 $\frac{1}{4}$	10x48	11 $\frac{1}{8}$ x 49 $\frac{1}{8}$	15x25	17 $\frac{1}{4}$ x 27 $\frac{1}{4}$	21x25	23 $\frac{3}{8}$ x 27 $\frac{3}{8}$	28x34	30 $\frac{3}{8}$ x 36 $\frac{3}{8}$
5x12	6 $\frac{5}{8}$ x 13 $\frac{5}{8}$	8x18	9 $\frac{3}{4}$ x 19 $\frac{1}{4}$			15x30	17 $\frac{1}{4}$ x 32 $\frac{1}{4}$	21x29	23 $\frac{3}{8}$ x 31 $\frac{3}{8}$	28x36	30 $\frac{3}{8}$ x 38 $\frac{3}{8}$
5x13	6 $\frac{5}{8}$ x 14 $\frac{5}{8}$	8x20	9 $\frac{3}{4}$ x 21 $\frac{1}{4}$	11x17	13 x 18 $\frac{1}{2}$	15x34	17 $\frac{1}{4}$ x 36 $\frac{1}{4}$			28x40	30 $\frac{3}{8}$ x 42 $\frac{3}{8}$
5x14	6 $\frac{5}{8}$ x 15 $\frac{5}{8}$	8x21	9 $\frac{3}{4}$ x 22 $\frac{1}{4}$	11x18	13 x 19 $\frac{1}{2}$	15x36	17 $\frac{1}{4}$ x 38 $\frac{1}{4}$	22x22	24 $\frac{3}{8}$ x 24 $\frac{3}{8}$	30x30	32 $\frac{3}{8}$ x 32 $\frac{3}{8}$
5x15	6 $\frac{5}{8}$ x 16 $\frac{5}{8}$	8x24	9 $\frac{3}{4}$ x 25 $\frac{1}{4}$	11x20	13 x 21 $\frac{1}{2}$			22x24	24 $\frac{3}{8}$ x 26 $\frac{3}{8}$	30x32	32 $\frac{3}{8}$ x 34 $\frac{3}{8}$
5x16	6 $\frac{5}{8}$ x 17 $\frac{5}{8}$	8x27	9 $\frac{3}{4}$ x 28 $\frac{1}{4}$	12x12	14 $\frac{1}{2}$ x 14 $\frac{1}{2}$	16x16	18 $\frac{1}{2}$ x 18 $\frac{1}{2}$	22x26	24 $\frac{3}{8}$ x 28 $\frac{3}{8}$	30x34	32 $\frac{3}{8}$ x 36 $\frac{3}{8}$
5x17	6 $\frac{5}{8}$ x 18 $\frac{5}{8}$	8x30	9 $\frac{3}{4}$ x 31 $\frac{1}{4}$	12x14	14 $\frac{1}{2}$ x 16 $\frac{1}{2}$	16x18	18 $\frac{1}{2}$ x 20 $\frac{1}{2}$	22x28	24 $\frac{3}{8}$ x 30 $\frac{3}{8}$	30x36	32 $\frac{3}{8}$ x 38 $\frac{3}{8}$
5x18	6 $\frac{5}{8}$ x 19 $\frac{5}{8}$	8x36	9 $\frac{3}{4}$ x 37 $\frac{1}{4}$	12x15	14 $\frac{1}{2}$ x 17 $\frac{1}{2}$	16x20	18 $\frac{1}{2}$ x 22 $\frac{1}{2}$	22x30	24 $\frac{3}{8}$ x 32 $\frac{3}{8}$	30x40	32 $\frac{3}{8}$ x 42 $\frac{3}{8}$
		8x48	9 $\frac{3}{4}$ x 49 $\frac{1}{4}$	12x16	14 $\frac{1}{2}$ x 18 $\frac{1}{2}$	16x22	18 $\frac{1}{2}$ x 24 $\frac{1}{2}$	22x32	24 $\frac{3}{8}$ x 34 $\frac{3}{8}$	30x42	32 $\frac{3}{8}$ x 44 $\frac{3}{8}$
6x 6	7 $\frac{1}{2}$ x 7 $\frac{1}{2}$			12x17	14 $\frac{1}{2}$ x 19 $\frac{1}{2}$	16x24	18 $\frac{1}{2}$ x 26 $\frac{1}{2}$	22x36	24 $\frac{3}{8}$ x 38 $\frac{3}{8}$	30x48	32 $\frac{3}{8}$ x 50 $\frac{3}{8}$
6x 8	7 $\frac{1}{2}$ x 9 $\frac{1}{2}$	9x 9	10 $\frac{7}{8}$ x 10 $\frac{7}{8}$	12x18	14 $\frac{1}{2}$ x 20 $\frac{1}{2}$	16x28	18 $\frac{1}{2}$ x 30 $\frac{1}{2}$	22x40	24 $\frac{3}{8}$ x 42 $\frac{3}{8}$		
6x 9	7 $\frac{1}{2}$ x 10 $\frac{1}{2}$	9x12	10 $\frac{7}{8}$ x 13 $\frac{1}{8}$	12x19	14 $\frac{1}{2}$ x 21 $\frac{1}{2}$	16x30	18 $\frac{1}{2}$ x 32 $\frac{1}{2}$	22x42	24 $\frac{3}{8}$ x 44 $\frac{3}{8}$	36x36	38 $\frac{3}{8}$ x 38 $\frac{3}{8}$
6x10	7 $\frac{1}{2}$ x 11 $\frac{1}{2}$	9x13	10 $\frac{7}{8}$ x 14 $\frac{1}{8}$	12x20	14 $\frac{1}{2}$ x 22 $\frac{1}{2}$	16x32	18 $\frac{1}{2}$ x 34 $\frac{1}{2}$			36x40	38 $\frac{3}{8}$ x 42 $\frac{3}{8}$
6x12	7 $\frac{1}{2}$ x 13 $\frac{1}{2}$	9x14	10 $\frac{7}{8}$ x 15 $\frac{1}{8}$	12x22	14 $\frac{1}{2}$ x 24 $\frac{1}{2}$	16x36	18 $\frac{1}{2}$ x 38 $\frac{1}{2}$			36x42	38 $\frac{3}{8}$ x 44 $\frac{3}{8}$
6x14	7 $\frac{1}{2}$ x 15 $\frac{1}{2}$	9x15	10 $\frac{7}{8}$ x 16 $\frac{1}{8}$	12x24	14 $\frac{1}{2}$ x 26 $\frac{1}{2}$	16x42	18 $\frac{1}{2}$ x 44 $\frac{1}{2}$	24x24	26 $\frac{3}{8}$ x 26 $\frac{3}{8}$	36x48	38 $\frac{3}{8}$ x 50 $\frac{3}{8}$
6x16	7 $\frac{1}{2}$ x 17 $\frac{1}{2}$	9x16	10 $\frac{7}{8}$ x 17 $\frac{1}{8}$	12x26	14 $\frac{1}{2}$ x 28 $\frac{1}{2}$			24x26	26 $\frac{3}{8}$ x 28 $\frac{3}{8}$		
6x18	7 $\frac{1}{2}$ x 19 $\frac{1}{2}$	9x18	10 $\frac{7}{8}$ x 19 $\frac{1}{8}$	12x28	14 $\frac{1}{2}$ x 30 $\frac{1}{2}$	18x18	20 $\frac{5}{8}$ x 20 $\frac{5}{8}$	24x27	26 $\frac{3}{8}$ x 29 $\frac{3}{8}$		
6x20	7 $\frac{1}{2}$ x 21 $\frac{1}{2}$	9x20	10 $\frac{7}{8}$ x 21 $\frac{1}{8}$	12x30	14 $\frac{1}{2}$ x 32 $\frac{1}{2}$	18x20	20 $\frac{5}{8}$ x 22 $\frac{5}{8}$	24x30	26 $\frac{3}{8}$ x 32 $\frac{3}{8}$	38x38	40 $\frac{3}{8}$ x 40 $\frac{3}{8}$
6x22	7 $\frac{1}{2}$ x 23 $\frac{1}{2}$	9x22	10 $\frac{7}{8}$ x 23 $\frac{1}{8}$	12x32	14 $\frac{1}{2}$ x 34 $\frac{1}{2}$	18x21	20 $\frac{5}{8}$ x 23 $\frac{5}{8}$	24x32	26 $\frac{3}{8}$ x 34 $\frac{3}{8}$	38x40	40 $\frac{3}{8}$ x 42 $\frac{3}{8}$
6x24	7 $\frac{1}{2}$ x 25 $\frac{1}{2}$	9x24	10 $\frac{7}{8}$ x 25 $\frac{1}{8}$	12x36	14 $\frac{1}{2}$ x 38 $\frac{1}{2}$	18x22	20 $\frac{5}{8}$ x 24 $\frac{5}{8}$	24x36	26 $\frac{3}{8}$ x 38 $\frac{3}{8}$	38x42	40 $\frac{3}{8}$ x 44 $\frac{3}{8}$
6x28	7 $\frac{1}{2}$ x 29 $\frac{1}{2}$	9x26	10 $\frac{7}{8}$ x 27 $\frac{1}{8}$	12x40	14 $\frac{1}{2}$ x 42 $\frac{1}{2}$	18x24	20 $\frac{5}{8}$ x 26 $\frac{5}{8}$	24x40	26 $\frac{3}{8}$ x 42 $\frac{3}{8}$		
6x30	7 $\frac{1}{2}$ x 31 $\frac{1}{2}$	9x28	10 $\frac{7}{8}$ x 29 $\frac{1}{8}$								

IMPORTANT INFORMATION FOR ORDERING

For all cast grilles whether of plain lattice or ornamental design there are three important dimensions: (a) the rib size (dimension "A" in cross-section sketch); (b) the over-all size (dimension "B" in sketch) and (c) the daylight opening (measurement of section containing the holes). Note, daylight opening equals the rib opening minus approximately $\frac{1}{2}$ in. on each dimension. Of these



three dimensions, the most important is dimension "A," the rib opening, as this determines the fit. The rib opening is made small enough so that it will fit inside the duct opening. If standard size grilles are specified, care should be taken to make sure that the over-all dimensions "B" are large enough to cover any angle frames or grounds surrounding the opening.

HIGHTON-H & C STAMPED GRILLES

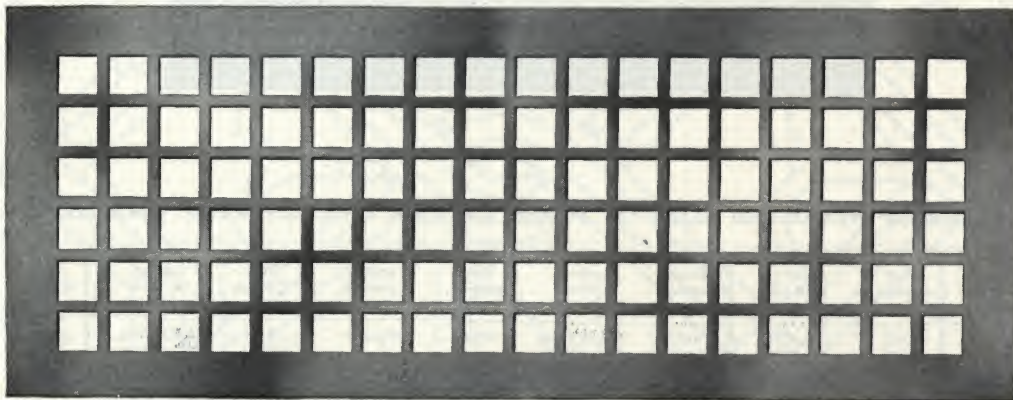
Stamped from Steel, Brass, Bronze or Aluminum

Highton-H & C Steel Grilles are made only from cold rolled steel free from scale and surface pits. They have the advantage of being lighter in weight than cast iron, unbreakable, easy to install and economical. They supplement and round out the complete line of Hightoncast Grilles shown in another section of this catalogue.

There are many kinds of steel grilles on the market. In order to secure the best in steel grilles we suggest you specify, "Highton-H & C to be made from cold rolled steel, frets to line up perfectly and back to be free from burrs, grilles to be perfectly flat when installed," and you will be assured of full satisfaction.

Plain Lattice Designs

Made in nine meshes: $\frac{1}{4}$, $\frac{1}{2}$, $\frac{5}{8}$, $\frac{3}{4}$, .762, $\frac{7}{8}$, 1, $1\frac{3}{8}$, $1\frac{1}{2}$ in.



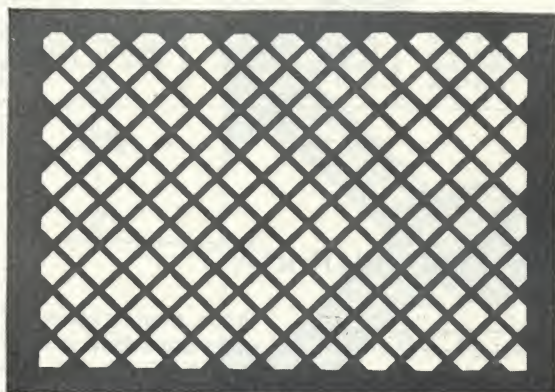
PLAIN LATTICE GRILLES

Metal thicknesses: No. 10 gauge (.134 in.), No. 12 gauge (.109 in.), No. 14 gauge (.083 in.)

Class No.	Hole size, in.	Bar width, in.	Free air capacity, per cent	One-piece size limits, in.			
				Height		Width	
				Over all	Opening	Over all	Opening
569	$\frac{1}{4}$	$\frac{1}{8}$	45	50	$47\frac{7}{8}$	120	118
570	$\frac{1}{2}$	$\frac{1}{4}$	45	50	$47\frac{3}{4}$	120	$117\frac{1}{2}$
574	$\frac{5}{8}$	$\frac{3}{8}$	51	50	$47\frac{1}{2}$	120	$117\frac{1}{4}$
575	.762	.220	59	50	$47\frac{1}{2}$	120	$117\frac{1}{4}$
575A	$\frac{3}{4}$	$\frac{1}{2}$	57	50	$47\frac{1}{4}$	120	$117\frac{1}{4}$
575B	$\frac{7}{8}$	$\frac{3}{4}$	60	50	$48\frac{1}{8}$	120	$117\frac{1}{4}$
576	1	$\frac{1}{2}$	65	50	$47\frac{1}{4}$	120	$117\frac{1}{4}$
577	$1\frac{3}{8}$	$\frac{3}{4}$	65	50	$46\frac{1}{8}$	120	$116\frac{1}{4}$
577A	$1\frac{1}{2}$	$\frac{7}{8}$	72	50	$48\frac{3}{8}$	120	$117\frac{3}{4}$

Diagonal Lattice Designs

Made in $\frac{1}{2}$, $\frac{3}{4}$ and 1-in. mesh all with $\frac{1}{4}$ -in. bars



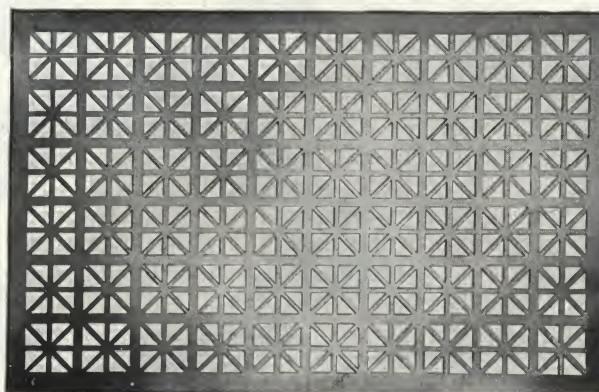
DIAGONAL LATTICE GRILLES

Metal thicknesses same as plain grilles

Class No.	Hole size, in.	Bar width, in.	Free air capacity, per cent	One piece size limits, in.			
				Height		Width	
				Over all	Opening	Over all	Opening
571	$\frac{1}{2}$	$\frac{1}{4}$	43	50	$47\frac{1}{16}$	120	$117\frac{1}{16}$
572	$\frac{3}{4}$	$\frac{1}{4}$	56	54	$50\frac{5}{16}$	120	117
572A	1	$\frac{1}{4}$	62	50	$47\frac{23}{32}$	120	$117\frac{1}{16}$

Grecian Lattice Designs

Made with $2\frac{1}{2}$, 3 and $3\frac{1}{2}$ -in. units



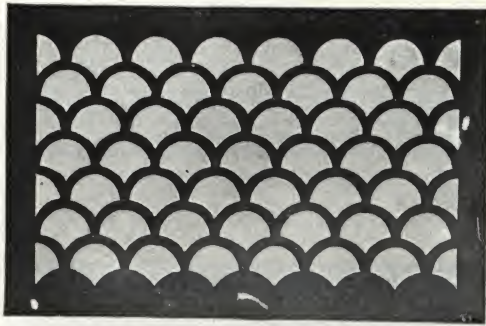
GRECIAN LATTICE GRILLES

Metal thicknesses same as plain grilles

Class No.	Hole size, in.	Bar width, in.	Free air capacity, per cent	One piece size limits, in.			
				Height		Width	
				Over all	Opening	Over all	Opening
573A	$2\frac{1}{2}$	$\frac{5}{16}$	45	50	$47\frac{1}{2}$	120	$117\frac{1}{16}$
573	3	$\frac{5}{16}$ or $\frac{3}{8}$	50	60	$53\frac{3}{8}$	120	$117\frac{3}{4}$
573B	$3\frac{1}{2}$	$\frac{5}{16}$	52	50	$45\frac{1}{16}$	120	$117\frac{1}{8}$

HIGHTON-H & C STAMPED GRILLES—ORNAMENTAL DESIGNS

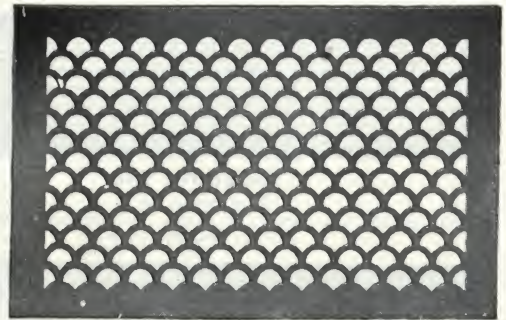
Stamped from Steel, Brass, Bronze or Aluminum

**Design No. 578 Shell Pattern**

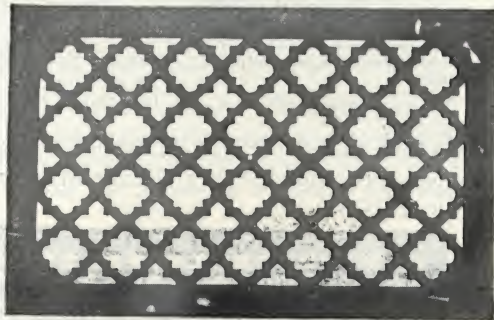
Free area, 67%

Based on a circle $\frac{3}{8}$ -in. radius. Units: 2 in. center to center in width; $2\frac{1}{4}$ in. center to center in height. Overall size limits: height, 50 in.; length, 120 in.

On this and the following page are shown ornamental and special designs in stamped metals. We can produce any design shown with dies on hand. Furthermore, we are especially well equipped to produce additional designs to architects' details. However, only those designs which are made up of a succession of similar units can be produced economically in stamped metals.

**Design No. 578-A Small Shell Pattern**

Free area, 60%

Based on a circle $\frac{1}{16}$ -in. radius. Units: $1\frac{1}{8}$ in. center to center in width; $1\frac{1}{4}$ in. center to center in height. Overall size limits: height, 50 in.; length, 60 in.**Design No. 582 Gothic Pattern**

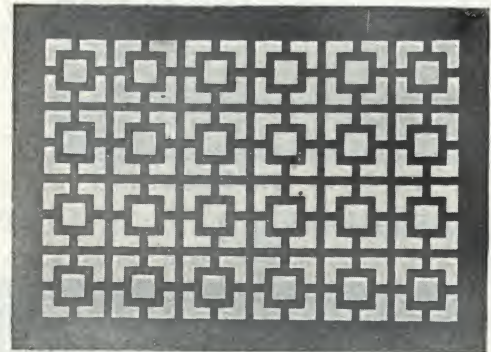
Free area, 60%

Units: $1\frac{1}{2}$ in. Frets between units, $\frac{1}{8}$ in. Overall size limits: height, 50 in.; length, 120 in. Furnished only in 12 gauge or lighter**Design No. 582-A Gothic Pattern**

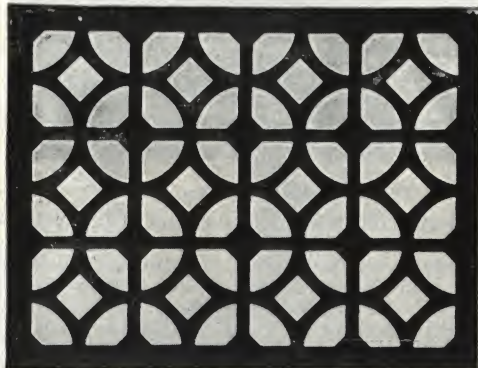
Free area, 72%

Units: 2 in. Frets between units, $\frac{1}{4}$ in. Overall size limits: height, 50 in.; length, 120 in. Furnished only in 12 gauge or lighter**Design No. 587 Divided Shell Pattern**

Free area, 65%

Units: $1\frac{1}{2}$ in. center to center in width; $1\frac{1}{2}$ in. center to center in height. Overall size limits: height, 50 in.; length, 60 in.**Design No. 588 Square Link Pattern**

Free area, 65%

Units: 2 in. Frets between units, $1\frac{1}{4}$ in. Overall size limits: height, 50 in.; length, 120 in.**Design No. 579**

Free area, 50%

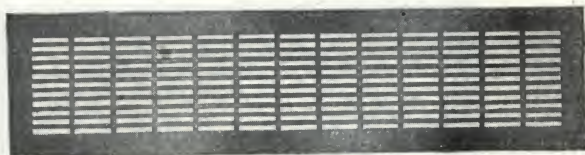
Units: $2\frac{3}{4}$ in. Frets between units, $\frac{3}{8}$ in. Overall size limits: height, 50 in.; length, 120 in. Also furnished in $2\frac{1}{2}$ -in. units—Design No. 579-A**Design No. 583**

Free area, 56%

Diamonds, $3\frac{1}{4} \times 1\frac{1}{8}$ in. Bars, $\frac{3}{8}$ in. Overall size limits: height, 50 in.; length, 60 in.

HIGHTON-H & C STAMPED GRILLES—ORNAMENTAL DESIGNS

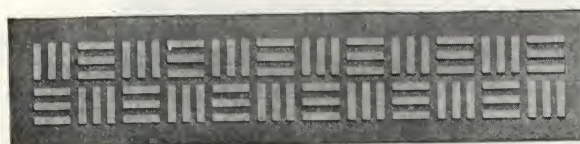
Stamped from Steel, Brass, Bronze or Aluminum



Design No. 586

Free area, 50%

Slots: $\frac{3}{8}$ x $1\frac{1}{2}$ in., bars $\frac{1}{8}$ in. wide. Overall size limits: height, 50 in.; length, 120 in.



Design No. 589

Free area, 50%

Slots: $\frac{3}{8}$ x $1\frac{1}{4}$ in., bars $\frac{1}{4}$ in. wide



Design No. 585

Free area, 41%

Slots: $\frac{5}{8}$ in. wide up to 12 in. high, bars $\frac{3}{8}$ in. wide. Overall size limits: height, 14 in.; length, 120 in.



Design No. 590

Free area, 15%

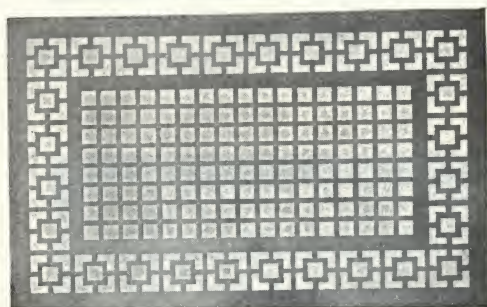
Louvers or hoods can be either $7\frac{1}{2}$ or 4 in. Made from No. 16 gauge or thinner metal. Widths 6 to 30 in.; heights up to 84 in. overall

Metal thicknesses of all grilles shown above: No. 10 gauge (.134 in.), No. 12 gauge (.109 in.), No. 14 gauge (.083 in.).

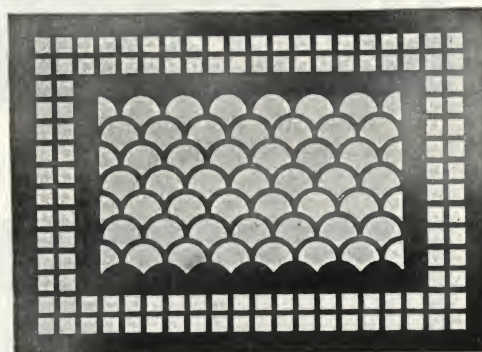
COMBINATION DESIGNS

Below are shown two cuts, illustrating the combination of a center of one design with a border of another. Many of the designs shown on the pre-

vious pages may be combined in a similar manner to secure artistic effects.



575 Center—573 Border

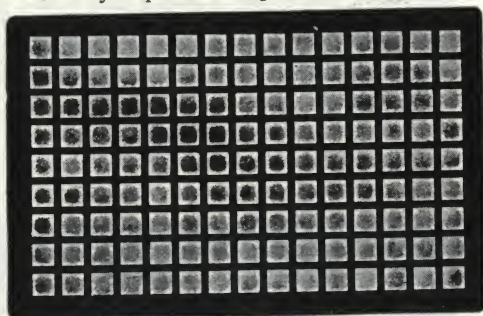


573 Center—575 Border

Due to the extra cost of combination designs, we recommend the use of single designs.

BEVELED EDGE GRILLES

For Psychopathic Hospital Buildings, etc.



"Psycho-Grille"

Perforated grille No. 10 or 12 gauge can also be furnished in any other stamped design

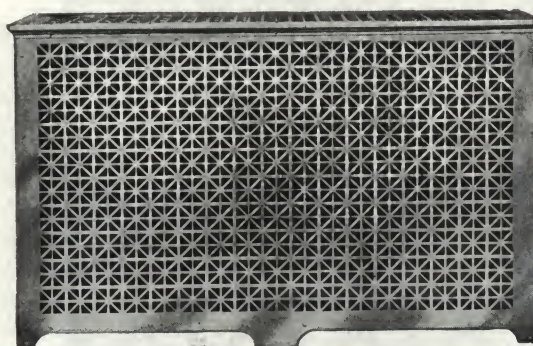
Highton-H & C have originated the above shown grille for use especially in connection with Psychopathic Hospitals where it is of extreme importance that no sharp edges protrude whereby a patient could injure himself.

All edges are smoothly beveled and corners rounded to fit snugly and evenly against the wall or surface to which grille is fastened.

Reference is also made to Highton-H & C Grilles and Registers Designs No. 132 and 125 shown on page 17.

To obtain best results for grilles as described above specify Highton-H & C "Psycho-Grille."

HIGHTON-H & C RADIATOR ENCLOSURES



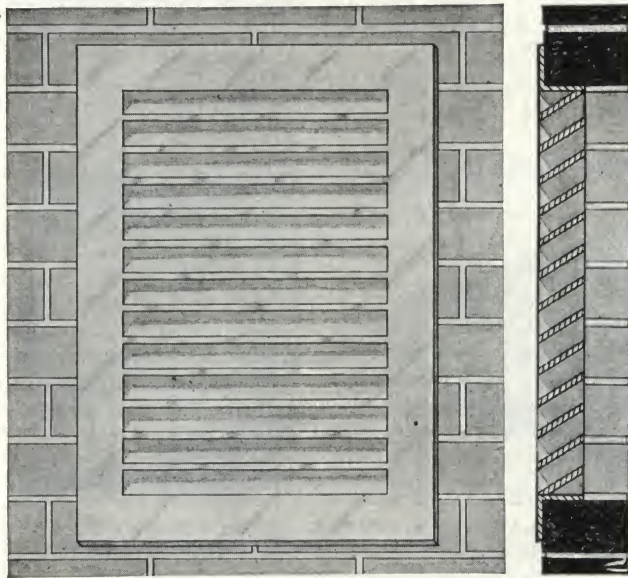
The Banker Class No. 373

The enclosure illustrated above is one of the many artistic effects possible to secure by the use of Highton-H & C steel or wrought bronze grilles. Practically all Highton-H & C cast iron or cast bronze grilles may be used in a similar manner. All enclosures are made up to specification. They are constructed with a rigid angle frame and are unusually well built and capable of standing considerable abuse.

Because of the large variety in styles of grilles, from both steel and cast metals, it is possible to design an enclosure which will harmonize with any architectural motif.

We gladly offer the assistance of our engineering department in designing a suitable enclosure for any location.

HIGHTON-H & C SPECIAL SIDE WALL AIR INLET VENTILATOR



**Elevation and Section of Vertical Type Inlet Ventilator
Showing Position of Louvers**

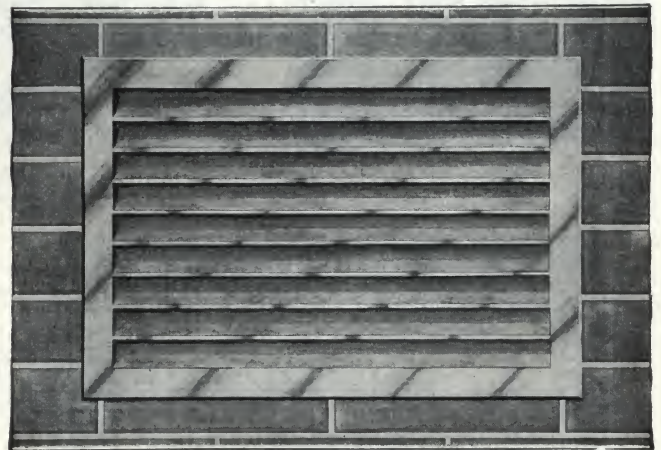
Ventilator illustrated is 12 in. wide by 18 in. high

With stationary louvers for use on the outside of buildings as a fresh air inlet. This ventilator is made extra heavy and so constructed as to exclude rain or snow. Made in cast iron, brass or bronze metal, in any size and to order only. When ordering give horizontal first and mark "wide" and "high" after the dimensions.

LIST OF STANDARD DUCT OPENING SIZES

10x 8	16x10	20x14	28x20	6x14	10x16	12x40
12x 8	16x12	20x16	30x 8	6x16	10x20	14x16
12x 9	16x14	20x20	30x10	8x10	10x24	14x20
12x10	16x16	22x 8	30x12	8x12	10x30	14x24
12x12	17x 5	22x12	30x16	8x15	12x14	16x16
14x 6	18x11	24x10	34x11	8x16	12x16	16x18
14x 8	18x12	24x12	36x12	8x20	12x18	16x20
14x10	18x16	24x14	40x10	8x24	12x20	16x24
14x12	18x18	24x15	40x12	8x30	12x22	16x30
14x14	20x 6	24x16	42x 8	9x14	12x24	20x24
15x 8	20x 8	24x18	49x11	9x16	12x30	20x28
16x 6	20x10	24x20	50x10	10x12	12x36	24x24
16x 9	20x12	28x16	50x12			

Made up in any special size not listed above at a small pattern charge



Horizontal Type Inlet Ventilator

Ventilator illustrated is 18 in. wide by 10 in. high

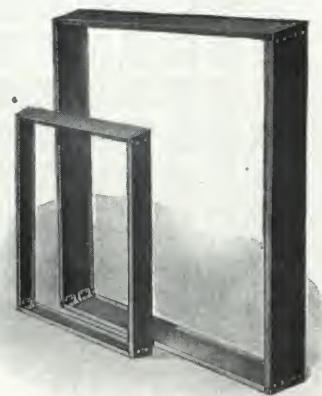
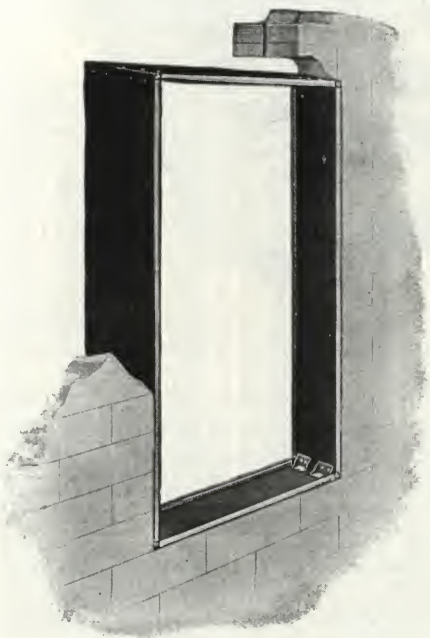
Specify the Highton-H & C Special Side Wall Air Inlet Ventilator
Write for further information on this special ventilator

REVERSED BEVEL WALL FRAMES

Nos. 282 and 284

For use in brick or masonry walls, made in steel or cast iron (specify which) either 2 in. or 4 in. deep. Wall frames furnish a means of securely holding registers or grilles in place in masonry walls. They are solidly masoned in place and the registers being attached by screws, may be removed at any time without injury to walls. For 2-in. frames specify No. 282; for 4-in., No. 284.

Wall frames can be furnished for any size register we manufacture.



STANDARD SIZES FOR REGISTERS OF FOLLOWING SIZES

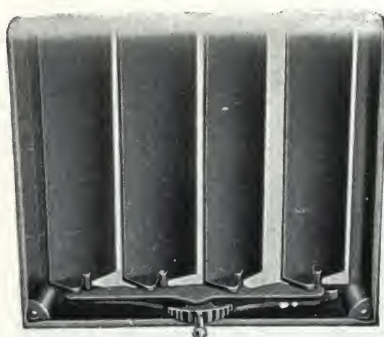
4 1/2 x 6 1/2	6x 6	7x 7	8x24	9x26	10 x36	12x24	14x30	18x18	21x29
4 x 8	6x 8	7x10	8x27	9x28	10 x40	12x26	14x36	18x20	24x24
4 x10	6x 9	7x12	8x30	9x30	10 1/2 x16 1/2	12x28	14x40	18x21	24x27
4 x12	6x10	7x14	8x32	9x32	11 x17	12x30	15x15	18x24	24x30
4 x15	6x12	7x15	8x36	9x36	11 x18	12x32	15x21	18x27	24x32
4 x18	6x14	8x 8	9x 9	10x10	11 x20	12x36	15x25	18x30	24x36
4 x21	6x16	8x10	9x12	10x12	12 x12	12x40	16x16	18x36	24x45
4 x24	6x18	8x12	9x13	10x14	12 x14	12x48	16x18	20x20	27x27
5 x 8	6x20	8x13	9x14	10x15	12 x15	14x14	16x20	20x22	27x38
5 x 9	6x22	8x14	9x15	10x16	12 x16	14x15	16x22	20x24	30x30
5 x10	6x24	8x15	9x16	10x18	12 x17	14x16	16x24	20x26	30x36
5 x12	6x28	8x16	9x18	10x20	12 x18	14x18	16x28	20x28	36x36
5 x14	6x30	8x18	9x20	10x22	12 x19	14x20	16x30	20x30
5 x16	6x32	8x20	9x22	10x24	12 x20	14x22	16x32	20x32
5 x18	6x36	8x21	9x24	10x30	12 x22	14x24	16x36	20x36

HIGHTON-H & C VENTILATING REGISTERS

The items shown on this and the following page are representative of our varied lines of registers. In addition to those shown, practically any grille, either cast or steel, shown on the preceding pages may be attached to a register box. Registers should be

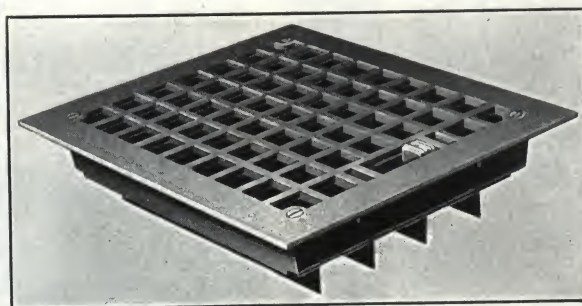
specified by the "duct or opening" size. Faces of standard registers have square mesh design, approximately $\frac{7}{8}$ -in. square. It is important to specify *standard sizes* as listed in Catalogue 29 to avoid the delay and extra cost of special patterns.

Hand Operated Registers



No. 240—All Cast

Body from cast iron with wheel movement as shown. Face also cast iron exactly the same as No. 230. An excellent register for use where resistance to rust is desired. Also made with bronze face or all bronze



No. 230—Semi-steel

Cast face mounted on unbreakable steel body

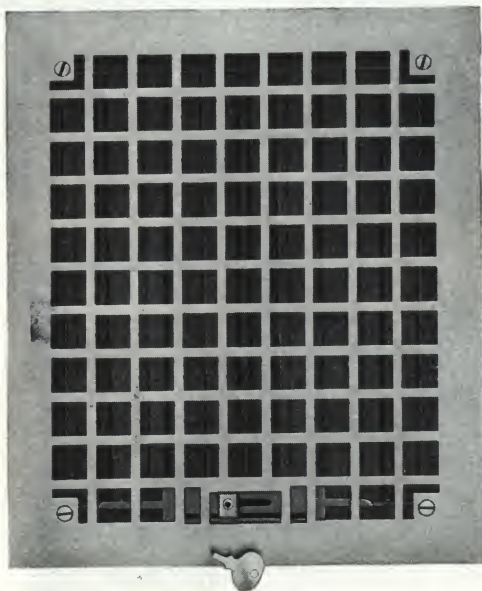


No. 800—All Steel

Steel face and steel body

HIGHTON-H & C "SUR-LOCK" REGISTER

Trade-Mark Applied For



**"Sur-Lock" Type Register
No. 7230**

Positive in Action



An entirely new lock register that can be furnished all steel or with a cast iron face and a steel box.

The special features are first, that the louvers can be regulated to any desired position. Secondly, the operating device is covered to prevent dust or dirt injuring the mechanism and to also present a more attractive appearance from the front. Thirdly, the locking device is entirely independent of the register face, and special design faces can be furnished using the regular register body. Last, but not least, the most important feature of this new register is that it can be securely locked, and nobody can

push a stick or similar object through the fretwork and move the louvers when the register is in a locked position.

This new and special lock can be applied to any register, either standard or special size, which has a steel body. With "Sur-Lock" the louvers operate in the usual way and are locked with a removable key. For all registers with cast-boxes we supply a different device—a key operated lock.

To insure the best specify Highton-H & C "Sur-Lock" register.

Samples or more complete information will be gladly sent on request.



No. 6800—All Steel

HIGHTON-H & C STANDARD KEY OPERATED REGISTERS

In all registers designated as key operating, the louvers can be operated only by use of a key.

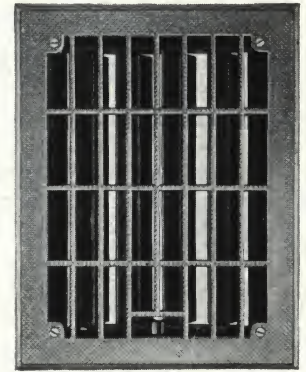
No. 6800, shown at left, has steel face and steel body.

No. 6230, similar, with cast face, steel body.

No. 6240, similar, with cast face, cast body.

HIGHTON-H & C PEBBLE FLOOR REGISTERS

On account of having beveled edge and narrow rim, register or face can be set without recessing. Metal is of sufficient weight to insure adequate strength. The pebbles prevent the foot from slipping. For Pebble Faces only in sizes listed below, specify No. 272.



No. 270 Pebble Floor Register

Multiple valve—cast iron face and steel body. Made only in sizes listed at left

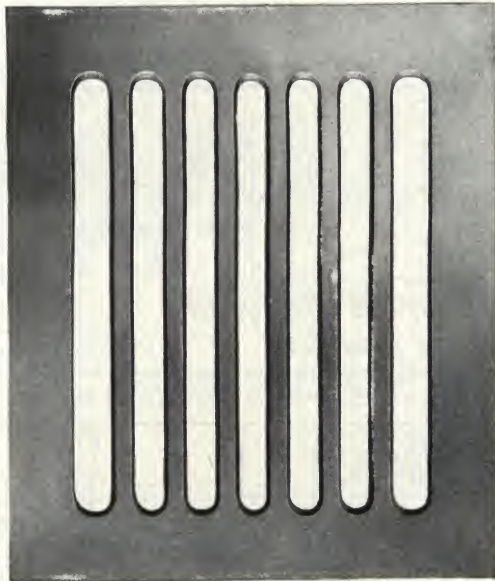
FLOOR OPENING

8x10	10x13
8x12	12x14
9x12	12x15
10x12	14x16

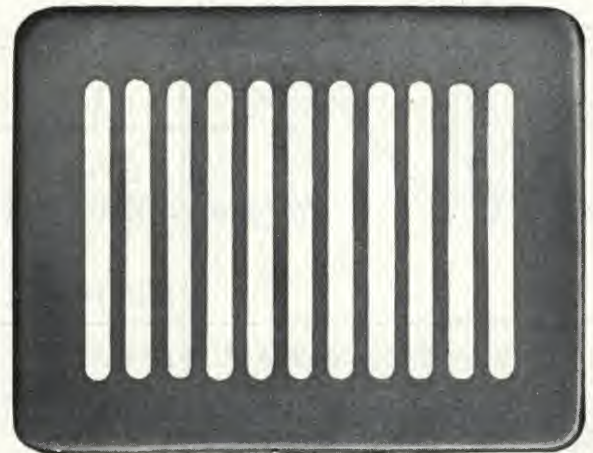
HIGHTON-H & C SANITARY REGISTERS AND GRILLES

Designed for use where extreme cleanliness is the prime requisite. Highton-H & C sanitary grilles and registers are especially easy to keep in a clean and sanitary condition.

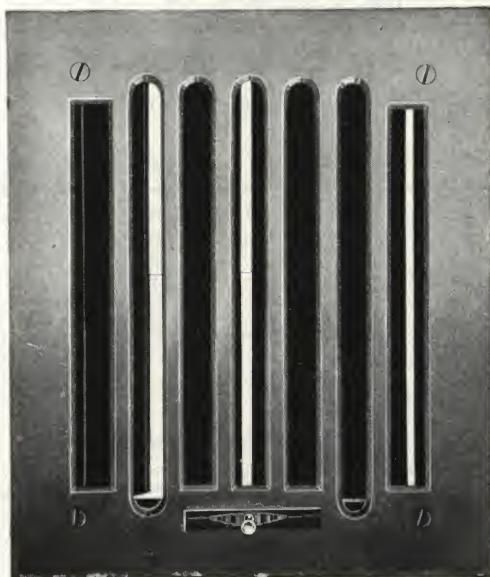
Where the best is required, specify Highton-H & C Round Edge Sanitary Grilles and Registers. Where economy is an important factor, square edge pattern may be used at lower cost. In all cases bars must run vertical. Give width first, height second, and state which dimension is height.



No. 135—Square Edge Sanitary Grille

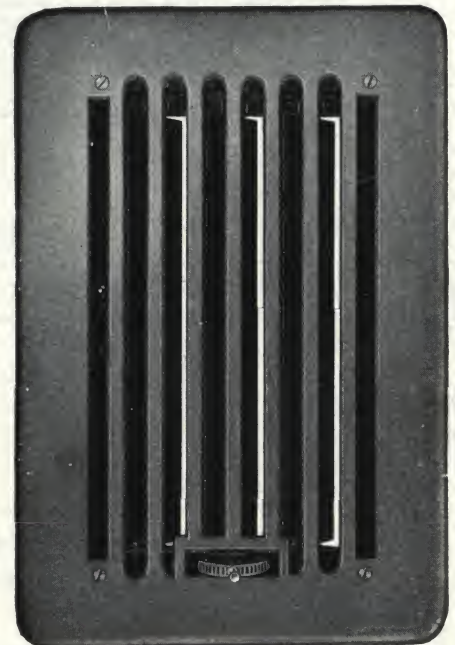


No. 132—Round Edge Sanitary Grille



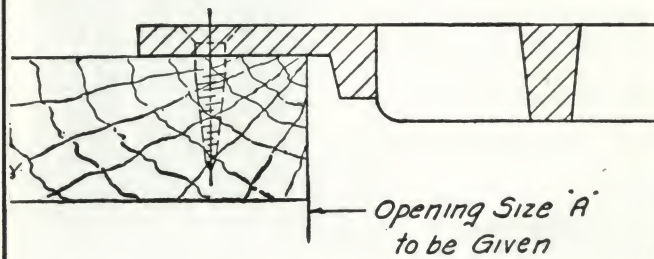
No. 137—Square Edge Sanitary Register

Designs Nos. 132 125 were developed to eliminate all rough or sharp edges, and are particularly appropriate for psychopathic hospitals. Reference is also made to Beveled Edge Perforated Grilles, described on page 14 of this catalogue.



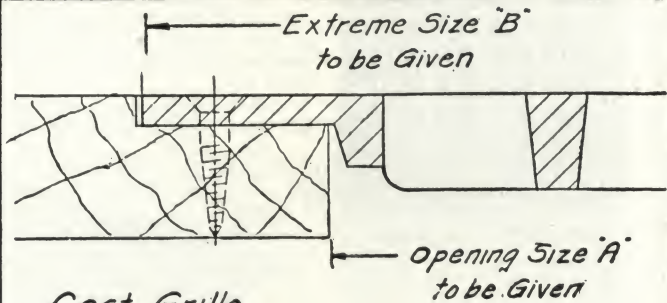
No. 125—Round Edge Sanitary Register

CONSTRUCTIONS AND METHODS FOR FASTENING HITONCAST CAST AND STAMPED GRILLES



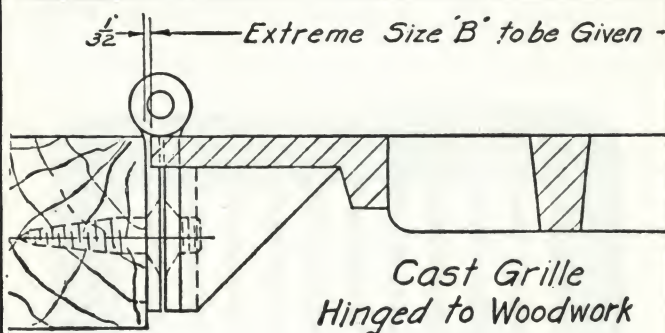
Cast Grille Overlapping the Opening

METHOD 10

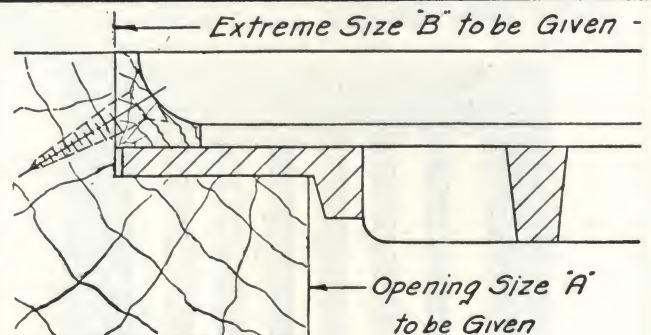


Cast Grille Set in Rabbet

METHOD 11

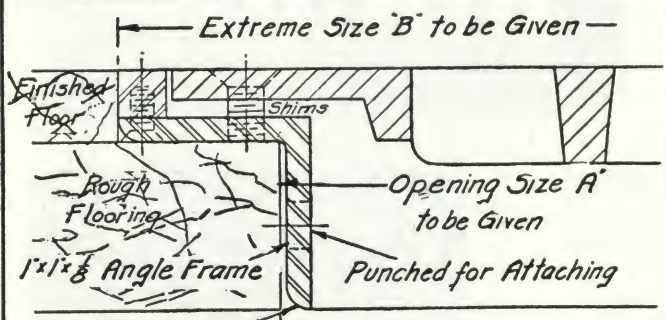


METHOD 12



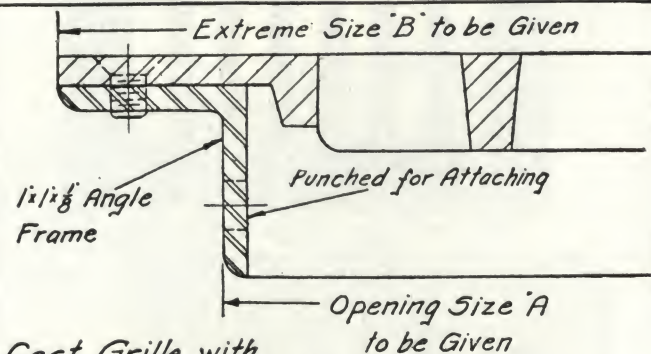
Cast Grille Secured By Moulding

METHOD 13



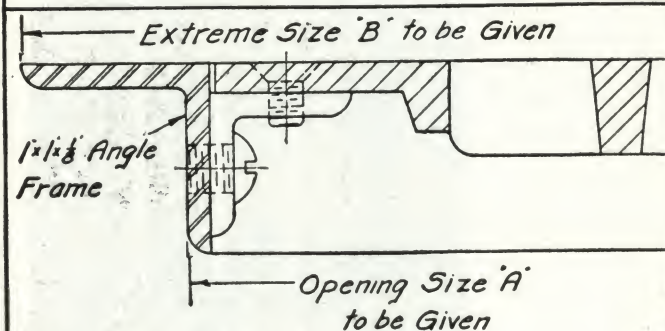
Cast Grille in Floor Frame

METHOD 14



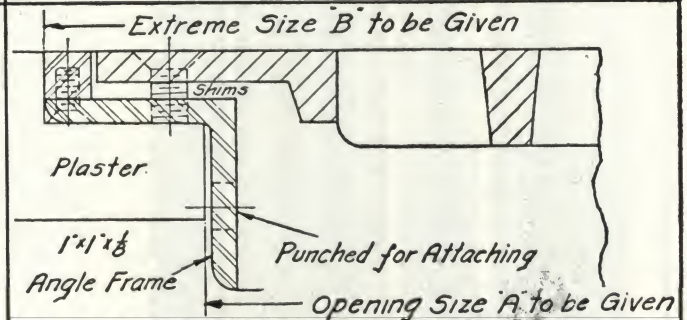
Cast Grille with Angle Frame on Back

METHOD 15



Cast Grille Attached to Frame with Angle Clips

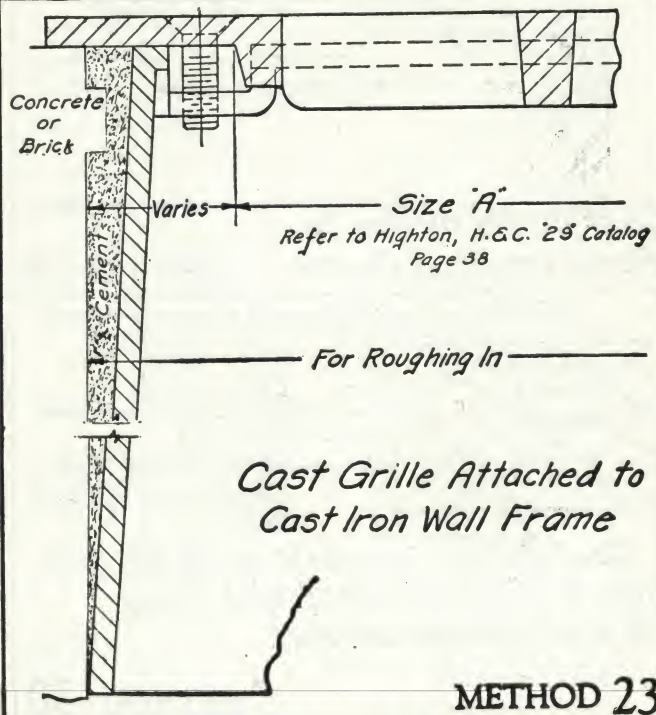
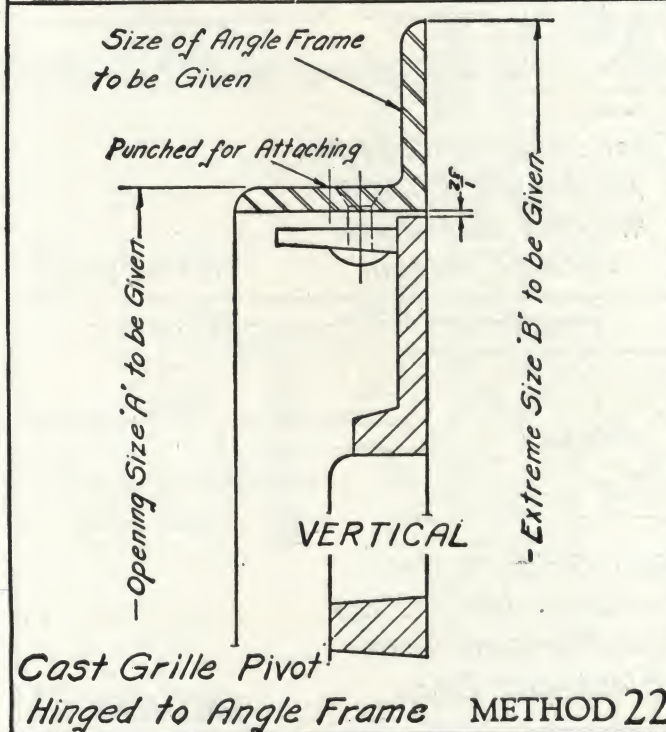
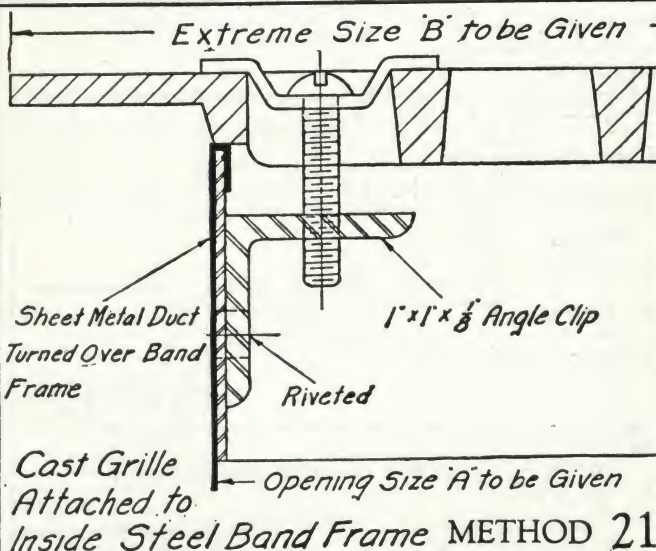
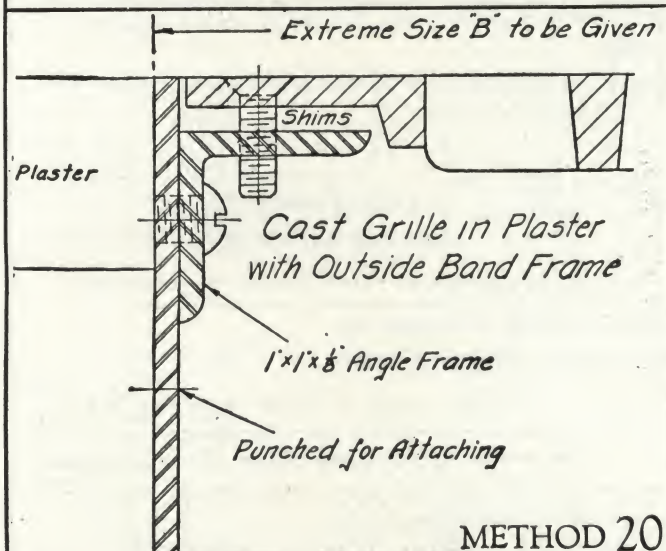
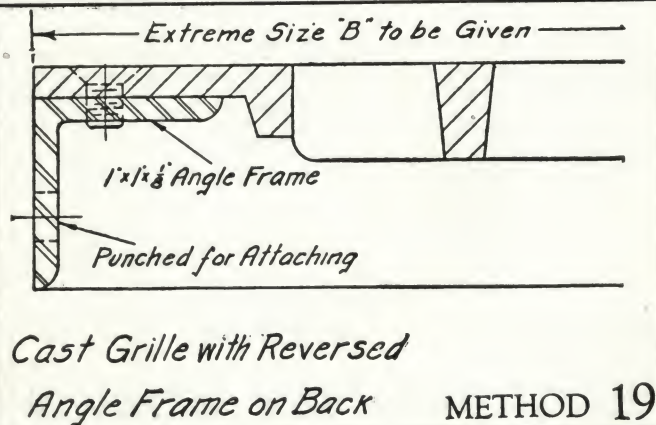
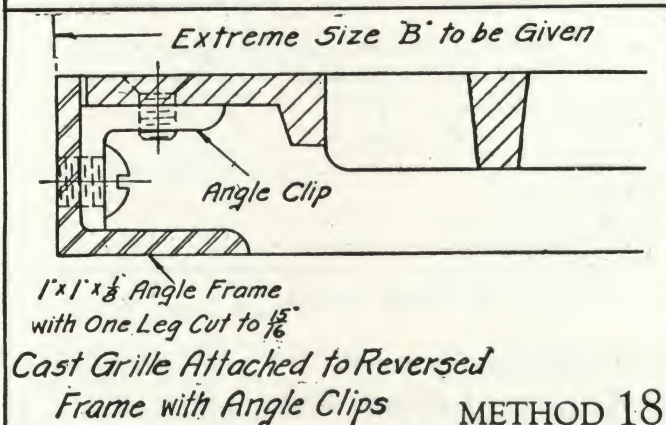
METHOD 16



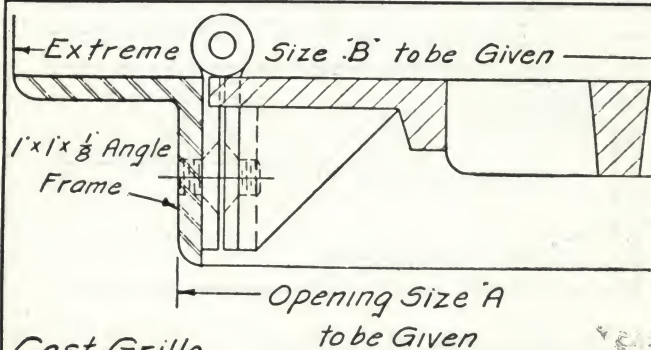
Cast Grille in Plaster with Wall Frame

METHOD 17

CONSTRUCTIONS AND METHODS FOR FASTENING HITONCAST CAST AND STAMPED GRILLES

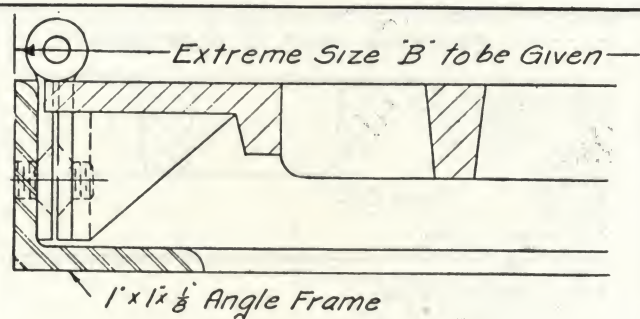


CONSTRUCTIONS AND METHODS FOR FASTENING HITONCAST CAST AND STAMPED GRILLES



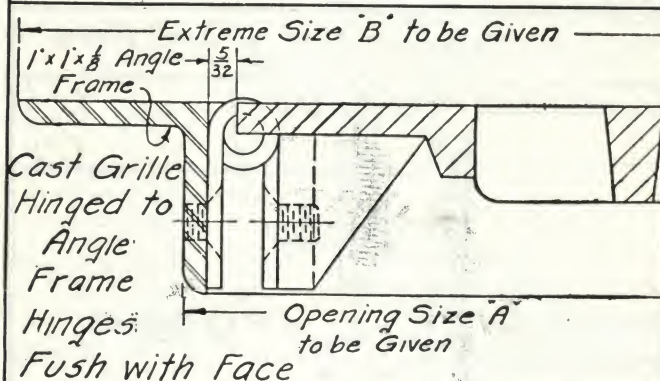
Cast Grille

Hinged to Angle Frame METHOD 24

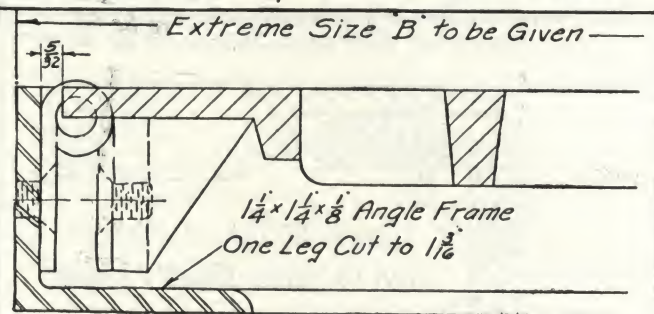


Cast Grille Hinged

to Reversed Angle Frame METHOD 25

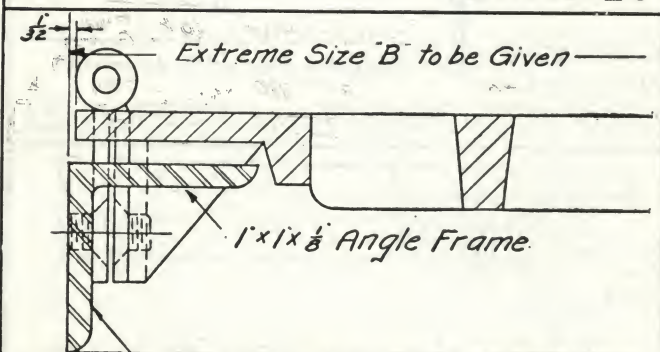


METHOD 26



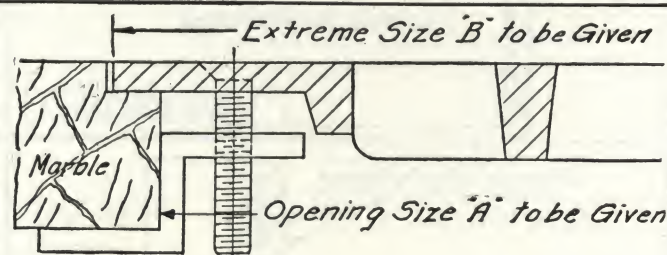
Cast Grille Hinged to Reversed Angle Frame

Hinges Flush with Face METHOD 27



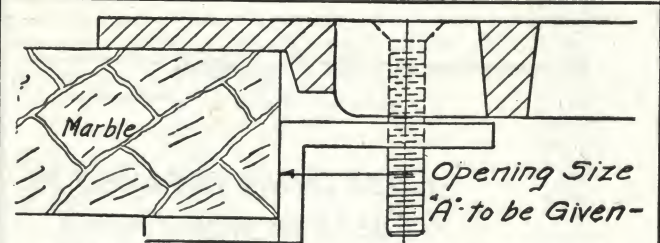
Cast Grille Hinged to Reversed Angle Frame

METHOD 28



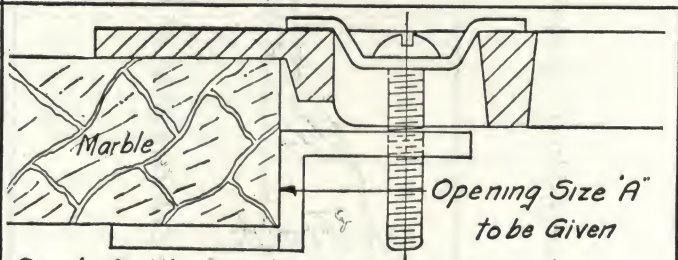
Cast Grille Fastened to Marble with Z Lugs Attached with Screw Through Margin

METHOD 29



Cast Grille Fastened to Marble with Z Lugs Attached with Screw Through Blocked Out Unit

METHOD 30



Cast Grille Fastened to Marble with Z Lugs and Stamped Metal Block-out Caps

METHOD 31

REFERENCES

The leading architects and builders are using Highton Registers, Faces, Grilles, Screens, etc., where quality and service count, as you will note from the following list of buildings where they have been installed.

Connecticut		New Jersey	
BUILDING	ARCHITECT	BUILDING	ARCHITECT
Bridgeport Telephone Building, Bridgeport	R. W. Foote	Convention Hall and Theatre, Asbury Park	Ernest A. Arend and Warren & Wetmore
Aetna Life Insurance Building, Hartford	James Gamble Rogers	Newark & Essex Bank Building, Newark	J. H. & W. C. Ely
Hartford County Building, Hartford	Paul P. Cret (Smith & Bassett, Assoc.)	Y. M. C. A., Paterson	F. W. Wentworth
Hartford National Bank & Trust Co., Hartford	Stone & Webster	Trenton Central High School, Trenton	E. S. & L. C. Licht
Second Church of Christ, Scientist, Hartford	Isaac A. Allen & Son, Inc.		
Sterling Memorial Library, New Haven	James Gamble Rogers		
Georgia		New York	
First National Bank, Atlanta	Pringle & Smith	Kings County Hospital, Brooklyn	Leroy Ward
Illinois		Elmira Telephone Building, Elmira	Voorhees, Gmelin & Walker
Austin High School, Chicago	Board of Education	Myron Taylor Hall, Ithaca	Jackson Robertson & Adams
Barnard School, Chicago	Board of Education	Anthony Campagna Residence, New York	Dwight J. Baum
Chandler Department Store, Chicago	E. O. Blake	Baptist Home for the Aged, New York	Augustus N. Allen
Ed. Hines Hospital, Chicago	Private Plans	Broadway Temple, New York	Voorhees, Gmelin & Walker
Evanston Hospital Nurses' Home, Chicago	H. B. Wheelock	Bronx Hospital, New York	Louis Allen Abramson
Goldblatt Store, Chicago	A. S. Alschuler	Childs Education Building, New York	Delano & Aldrich
Harrison & Wabash Building, Chicago	A. S. Alschuler	Chrysler Building, New York	William Van Allen
Hartman's Building, Chicago	A. S. Alschuler	Empire State Building, New York	Shreve, Lamb & Harmon
Kelly High School, Chicago	Board of Education	Guggenheim Dental Clinic, New York	York & Sawyer
Kozminski School, Chicago	Board of Education	Hunter College, New York	Thompson, Holmes & Converse
Merchandise Mart, Chicago	Graham, Anderson, Probst & White	Jewish Theological Seminary, New York	Gehron, Ross & Alley
Michigan Lake Building, Chicago	A. S. Alschuler	Eighth Avenue Subway Stations, New York	Board of Transportation
Onaham School, Chicago	Board of Education	Riverside Church, New York	James Gamble Rogers
Tonti School, Chicago	Board of Education	Temple Emanu-El, New York	Robt. D. Kohn (Chas. Butler & Clarence S. Stein, Assoc.)
Massachusetts		Tudor City Apartments, New York	Fred F. French Company
Dillon Field House, Boston	Coolidge, Shepley, Bullfinch & Abbott	Union League Club, New York	Morris & O'Connor
Edison Building, Boston	Bigelow, Wadsworth, Hubbard & Smith	Western Union Telegraph Building, New York	Voorhees, Gmelin & Walker
Harvard College, Boston	Coolidge, Shepley, Bullfinch & Abbott	Y. M. H. A., New York	Necarsulmer & Lehlbach
Harvard Units Nos. 1 and 2, Boston	Coolidge, Shepley, Bullfinch & Abbott	Pelham Memorial High School, Pelham	Hart & Shape
Herald Traveler, Boston	Henry Bailey Allen		
Manger Hotel, Boston	Funk & Wilcox		
North Station, B. & M. R. R., Boston	Funk & Wilcox		
Temple Israel, Boston	McLaughlin & Burr		
Tower Building, Boston	Thomas James Company		
U. S. Machinery Building, Boston	Parker, Thomas & Rice		
Y. W. C. A., Boston	Shepard & Stearns		
Deerfield Academy, Deerfield	Charles A. Platt		

Other Prominent Installations

Akron, Ohio Firestone Tire Co.	Brookline, Mass. Corey Hill Hospital	Lake Placid, N. Y. Bank of Lake Placid	Hotel Ambassador Roosevelt Home Over 35 Public Schools
Allentown, Pa. Merchants National Bank	Buffalo, N. Y. Marine National Bank Buffalo City Hospital	Lakewood, N. J. Lakewood Hospital	Oklahoma City, Okla. Shidler School
Atlanta, Ga. Chandler Residence Lombard Residence	Brighton, Mass. St. Joseph's Academy St. Elizabeth's Hospital	Lewiston, Me. Bates College	Pawtucket, R. I. Sayles Memorial Hospital
Atlantic City, N. J. Ritz Carlton Hotel	Cambridge, Mass. Cambridge Hospital	Louisville, Ky. Inter-Southern Insurance Bldg.	Philadelphia, Pa. Girard Trust Co. Bulletin Bldg. Wanamaker Stores Gimble Brothers Bldg. Mount Sinai Hospital Jewish Hospital
Attleboro, Mass. Masonic Building	Charleston, S. C. Dime Bank & Trust Co.	Lowell, Mass. Chalifoux Department Store	Pittsburgh, Pa. Mellon National Bank
Baltimore, Md. Gardenville School Maryland Casualty Co. Baltimore & Ohio R. R. Office Bldg. Cardinal Gibbons Residence Municipal Hospital Aheb Shalem Temple Popular Grove School Hutzler Bldg. Citizens National Bank Bldg. Emerson Hotel War Memorial Bldg. Mercantile Bank State Normal School Park and Fire Board Bldg. Baltimore City Morgue Benesch Bldg. St. Paul's Church	Cleveland, Ohio Cleveland Railway Co. First Church of Christ, Scientist Cleveland & Western Coal Co. Leader-News Bldg. Hanna Bldg. Engineer's Bank Bldg.	Mahanoy City, Pa. First National Bank	Pittsfield, Mass. Pittsfield High School
Bangor, Me. Eastern Maine State Hospital	Cortland, N. Y. Cortland Theatre	Manchester, N. H. Amoskeag Bank Bldg. Manchester Savings Bank	Portland, Me. Custom House City Hall Maine General Hospital
Boston, Mass. Harvard Club R. H. Stearns Bldg. First National Bank John Hancock Bldg. South Terminal Suffolk County Courthouse Employers Liability Bldg. Harvard Medical School Hornblower & Weeks Bldg. Federal Trust Co. Bldg. Merchants National Bank Bldg. Evans Memorial Hospital Beacon Trust Co. Old Colony Trust Co. The Waterman Bldg. Schrafft's Candy Store New Health Bldg. New Second Universalist Church St. Paul's Church Park Square Office Bldg. Fenway Apartments Federal Reserve Bank	Cumberland, Md. Kelly-Springfield Tire Co.	Mattapan, Mass. Boston State Hospital	Providence, R. I. State Armory
	Detroit, Mich. Hotel Statler Book-Cadillac Hotel	Medford, Mass. State Armory	Richmond, Va. Westhampton High School Richmond Trust Co.
	Fieldstone, N. Y. E. A. Hoffman Residence	Massena Springs, N. Y. U. S. Aluminum Co.	Salem, Mass. Salem Hospital
	Fitchburg, Mass. D. Frank Dillon Residence	Middlebury, Vt. Middlebury College	Springfield, Mass. Hampden County Courthouse
	Flint, Mich. Genesee Bank	Montclair, N. J. Vincent S. Mulford Residence	St. Louis, Mo. Scruggs-Vandervoort Dept. Stores
	Glasgow, Scotland Royal Hospital	Montpelier, Vt. State Capitol	Syracuse, N. Y. Park Hill School
	Glen Cove, N. Y. Geo. D. Platt Residence	Montreal, Canada Eaton Building Montreal High School	Torrington, Conn. Charles Hungerford Hospital
	Greeley, Colo. Weld County Courthouse	Nashua, N. H. Public Library St. Joseph's Hospital Memorial Hospital	Valley Forge, Pa. Bishop White Memorial Chapel
	Greenwich, Conn. Stillman Rockefeller Residence	Nashville, Tenn. George Peabody College	Washington, D. C. New Bureau of Engraving and Printing Hamilton Hotel Eastern High School
	Hartford, Conn. National Fire Insurance Bldg. Supreme Court and Library	Naugatuck, Conn. N. Y., N. H. & H. R.R. Station	Worcester, Mass. Greendale Hospital Bancroft Hotel
	Haverhill, Mass. Merrimack National Bank Colonial Theatre	New York, N. Y. Elks Home, Brooklyn Woolworth Bldg. Bellevue Hospital New York Club Lincoln Trust Co. Metropolitan Museum of Arts	

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HITONCAST

GRILLES & REGISTERS

